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No. 12.

CLINICAL, PATHOLOGICAL AND EXPERIMENTAL OBSERVATIONS ON THE "MYSTERIOUS DISEASE," A CLINICALLY ABERRANT FORM OF ACUTE POLIOMYELITIS.

By A. Breinl, M.D.

From the Australian Institute of Tropical Medicine,
Townsville.

(Continued from page 218.)

Case 5.—A boy, two years of age, was admitted to the hospital on June 4, 1917. The anamnesis taught that the

patient had been in perfect health until the evening prior to his admission, when he had a sudden retching turn, followed by convulsions, which lasted off and on during the whole of the night. When admitted to the hospital he was semi-conscious; his temperature was slightly raised (see Chart IV.). The physical examination did not reveal any striking organic changes. During the following four days he was conscious, and showed only slight twitchings in arm and face now and again. On the fifth day, however, convulsions set in again, the respiration became stertorous and laboured, and he could only swallow with the greatest difficulty. His body temperature rose, and registered 42.2° C. during the night, which, however, was

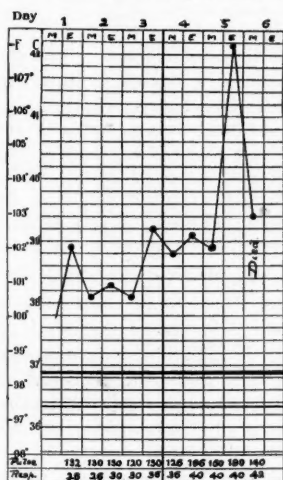


Chart IV.

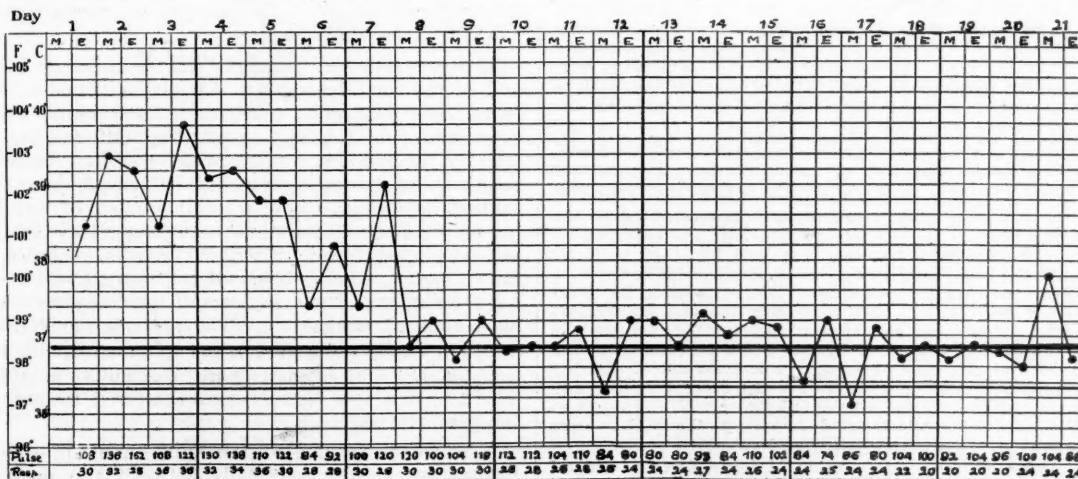


Chart V.

reduced by wet packing to 39.4° C.. The patient, however, never rallied, and died the following day in deep coma.

An autopsy was performed six hours after death.

The thoracic and abdominal organs did not show any marked pathological changes.

The *dura mater* of the brain was firmly adherent to the skull. The meninges were very hyperæmic, the brain substance was soft and œdematous; the congestion was more pronounced in the grey than in the white substance. The central canal of the spinal cord was slightly distended, and the tissue was intensely hyperæmic on cross-section.

The brain and spinal cord were preserved in formalin, and pieces were imbedded and prepared for microscopical examination.

The meninges of the brain appeared normal on microscopical section. In the brain substance the perivascular lymph spaces were enlarged, containing here and there a small number of red blood corpuscles. In sections through the large basal ganglia the grey matter appeared richer in cells than normal, showing here and there small foci where the brain substance was rarified. A few fresh hæmorrhages of varying extent were seen in the sections through the large basal ganglia. The sections through the pons and cerebellum showed only hyperæmia.

In sections through the spinal cord the central canal of the spinal cord was dilated, and a slight but diffuse infiltration was noticed throughout the grey matter. Here and there were small hæmorrhages in the grey substance, perhaps more numerous in the lumbar swelling. The ganglion cells on the whole were unchanged.

Sections through liver, lung, heart muscle and lymph glands showed microscopically normal conditions; sections through the kidneys showed a slight glomerulo-nephritis.

Case 6.—A boy, six years of age, was admitted to the hospital on the evening of March 27, 1917. According to a

statement of his mother, the boy had been in normal health until mid-day, when he suddenly took a severe fit, and became unconscious immediately afterwards.

On admission, the patient, a well-developed boy, was absolutely unconscious. His temperature was raised (see Chart V.), the muscles of his neck were rigid, his arms and legs

were continually trembling; now and again the tremors became more pronounced, resembling a convulsion, and the boy cried out loudly. Babinski's sign was positive, Kernig's sign was absent, and the knee jerks were exaggerated. A lumbar puncture was performed; the spinal fluid was clear and not under increased pressure; the sediment contained lymphocytes.

Bacteriological cultures of the spinal fluid and blood proved negative. A blood count revealed a slight leucocytosis (12,000 leucocytes per c.mm.); the differential count a relative increase in the polymorpho-nuclear leucocytes.

The condition of the patient did not alter in any way during the following four days. The patient remained absolutely unconscious; the respiration-rate on the whole was not markedly increased. He had slight convulsions now and again, in spite of large doses of chloral hydrate, which were administered *per rectum*. Rectal feedings had to be resorted to, as the patient was unable to swallow. On the fifth day the left side of the face and his right arm and leg were paralysed.

No further changes were noted in the course of the succeeding three days; the body temperature was still elevated, and the patient was very restless. During the night, from the seventh to the eighth day, the patient appeared more peaceful than previously, and on the following morning the temperature of the patient, who had been perfectly unconscious the previous evening, was normal, and he asked for food.

The first voluntary movements of the arm and leg were noticed on the eighth day, after the fall of temperature, and the paralysis improved subsequently at an amazing rate, so that after three weeks the patient was able to walk unaided, and could grip any object with his previously paralysed hand.

Case 7.—A boy, thirteen years of age, was admitted to the hospital on May 4, 1917. He had been well until the morning of April 13. After getting up as usual, he was found by his parents lying on the ground, in an unconscious condition, his legs and arms moving violently. The "fit" only lasted for a few minutes, and he regained consciousness afterwards. He felt well enough to have his mid-day meal with the family, but felt "off colour" in the afternoon, and vomited. The same night he was restless, stayed in bed during the following two days, feeling "very hot." On the third day he had another turn, took several "fits," and lapsed into an unconscious state; he improved slightly in the afternoon, but appeared very drowsy, talking incoherently, and not recognizing his family. When he entered the hospital he had, according to his parents, improved considerably. He was still drowsy, but answered simple questions sensibly, although he could not grasp the meaning of more complicated sentences. His temperature was 40° C. The physical examination did not show any abnormalities; a spinal puncture revealed normal conditions.

During the succeeding days his temperature fell gradually, and he appeared absolutely normal on the third day, and has been so ever since. He never showed any signs of paralysis.

Case 8.—A girl, two years of age, was admitted to the General Hospital on December 31, 1917, in the early morning. According to her mother, the child had been perfectly normal the previous evening. About 3 a.m. she had a convulsion, and became unconscious. On admission, her temperature was 40.2° C., her pulse-rate 160 and respiration-rate 40, and she was unconscious. During the morning she had convulsions off and on, lasting a few seconds only; she was restless, and threw her legs and arms about. During the afternoon the convulsions became more frequent and severe, and she showed true opisthotonos. Nystagmus was well marked. The bowels acted frequently; the motions were slimy, of greenish colour and offensive.

In spite of the administration of large doses of chloral hydrate the convulsions became more severe; the whole body became stiff and the back was arched; the temperature rose slowly but steadily, and prolonged cold packing reduced the temperature for a short time only. The pulse became more rapid and weak, and the following night at 3 a.m. the thermometer recorded 42.6° C. The respiration became suddenly shallow and rapid (60), and death of respiratory failure took place at 3.30 a.m.

Only a partial autopsy could be performed six hours after death. Brain and spinal cord showed a high degree of congestion of the meninges. On cross-section the brain substance appeared oedematous and congested, and there were small hæmorrhages here and there, especially in the grey matter. The substance of the spinal cord showed changes similar to those of the brain; the grey matter on cross-section appeared prominent and of greyish pink colour.

The microscopical examination of the sections of brain and spinal cord revealed on the whole changes similar to those observed in Case 4. The *pia mater* of the brain and spinal cord showed a diffuse infiltration with leucocytes and mononuclear round cells; the vessels were dilated and engorged with red blood corpuscles. The blood vessels of the brain and spinal cord were injected. The grey substance of the brain showed a diffuse cellular infiltration; the cells were here and there collected into small foci, and the surrounding tissue was not infrequently rarefied. The blood vessels were often surrounded by a single or double layer of round cells, which possessed a small, darkly staining nucleus; in addition, there were in amongst them a few larger cells, with a vacuolated, irregular nucleus, poor in chromatin.

Small irregular hæmorrhages could be seen here and there in the brain tissue, and frequently the perivascular spaces contained a varying number of red blood corpuscles.

The pons and *medulla oblongata* showed a similar diffuse and focal infiltration, and softening of the grey matter, and, in addition, a few scattered hæmorrhages.

Section through the cerebellum appeared normal, with the exception of diffuse infiltration of the *corpus dentatum*.

Lesions of varying severity were observed throughout the whole length of the spinal cord, perhaps most marked in the lumbar region.

The grey matter, especially of the anterior horns and of the commissure, was diffusely infiltrated, and there were numerous cell foci, consisting of leucocytes and round cells, surrounding either ganglion cells or the remains of degenerating cells. Thus all stages of neuronophagia could be traced, from the earliest beginning, where a small number of wandering cells collected around the ganglion cell, which appeared slightly swollen, without Nissl's granules, to the end stage, where one could only see a badly staining remainder of the cytoplasm of the cell surrounded by a mass of phagocytes. The perivascular infiltration was hardly noticeable in the spinal cord, although the perivascular spaces were distinctly enlarged. There were a few hæmorrhages scattered throughout the grey matter.

Sections of several of the spinal ganglia showed infiltration with round cells between the ganglion cells, some of which appeared degenerated.

Case 9.—A boy, one year and ten months old, was admitted to the hospital on January 26, 1918. The mother stated that the child had been in good health until four days ago, when he complained in the evening of headache, became very restless, felt feverish and vomited. On the morning before admission the child "went into a stupor."

When admitted, the patient was unconscious, and slept most of the time; the temperature was elevated (40° C.). The eyes were drawn to one side, the pupils were contracted, the head was retracted and the muscles of the neck were stiff and rigid. Now and again tremors passed over the whole of his right side, and whenever disturbed the child threw his right arm about and stiffened his whole body. Kernig's and Babinski's signs were absent, the patellar reflexes were slightly exaggerated.

The bowels acted soon after admission; the stool was yellowish green, contained mucus, and was very offensive.

The condition of the patient remained the same for two days, but became worse during the second night. The fits became more frequent and pronounced, resembling convulsions of short duration. The right leg was drawn up, the right arm thrown about, whilst the left arm remained stiff and the hand clenched. The eyes were staring and drawn to one side. The temperature rose to 40.4° C., but could be reduced by cold packing to 39.4° C. The pulse-rate was about 140, and the respiration-rate varied between 40 and 50. Large doses of chloral hydrate did not seem to influence the condition in any way.

The following day (January 28), the condition became still worse. The fits were more frequent and of longer duration, and between the fits the tremors of the right leg and arm never ceased. The patient, who had been able to take drinks, was now unable to swallow, and could not retain nutrient enemata.

The body temperature remained high, ranging between 39.4° and 40.2° C. The pulse-rate finally rose to 168, and the patient died on January 29 at noon.

Spinal puncture was performed on January 28 with negative result.

A partial autopsy was performed one hour after death, at which the brain and spinal cord were removed. These organs resembled closely those of the previous case. There was a high degree of congestion of the meninges. The brain substance was soft and œdematous, and there were numerous small hæmorrhages in the substance of the large basal ganglia, especially numerous and extensive below the ependym of the lateral ventricles. The spinal cord was congested, and the grey matter prominent on cross-section and of a pinkish colour. The brain and spinal cord were fixed in formalin, and sections prepared.

The microscopical examination of the brain and spinal cord showed pathological lesions similar to those described in the previous case. The *pia mater* of the brain was slightly infiltrated, especially in the layer adjacent to the cortex. The blood vessels in the sections of the different parts of the brain were congested. There was a slight but diffuse cellular infiltration, especially marked in the grey substance, where the infiltrating cells, polymorpho-nuclear leucocytes and round cells, were often clustered together, forming dense small foci. The brain matter around these foci appeared now and again softened. The blood vessels here and there were surrounded by a few layers of round cells. Small hæmorrhages occurred frequently in the grey matter, and a series of larger hæmorrhages was seen below the ependym of the lateral ventricles.

The pons and *medulla oblongata* were the site of similar lesions, but the perivascular infiltration was on the whole more pronounced.

Sections through the cerebellum appeared normal. The lesions throughout the spinal cord were most pronounced, increasing in severity towards the lumbar region. The grey matter was diffusely infiltrated with polymorpho-nuclear leucocytes and round cells, which formed here and there larger and smaller dense

foci. There was an extensive destruction of the tissue of the anterior horns, most extensive in the regions of the cervical and lumbar swelling, the site of numerous smaller and larger hæmorrhages. The blood vessels throughout the cord showed marked perivascular infiltration. A number of ganglion cells were in different stages of degeneration; many of them, especially in the anterior horns, were surrounded by neurophages, and the various phases of neuronophagia were of frequent occurrence.

Small hæmorrhages were found throughout the grey substance.

Four spinal ganglia were examined microscopically, but did not show any definite pathological lesions.

Experimental.

The microscopical examination of the brain and spinal cord of the first patient suffering from the disease in question revealed pathological changes in the central nervous system, typical of acute poliomyelitis. It was therefore deemed advisable to inoculate material from further cases, should any occur, into monkeys, in order to confirm the diagnosis. The experiments of Landsteiner and Popper,⁹ Flexner and Lewis¹⁰ and others had proved conclusively that monkeys were the only experimental animals susceptible to the virus of poliomyelitis, and that intracerebral inoculation produced in these animals a definite and mostly fatal disease, which resembled the human disease in several of its most important clinical aspects, producing at the same time typical lesions in the tissue of brain and spinal cord.

The cerebro-spinal fluid of Case 4, withdrawn on the day previous to the death of the patient, was utilized, and was injected intra-cerebrally on May 25, 1917, into two animals after trephining the skull by means of an Archimedian drill. One large animal (*Macacus rhesus*) received 2 c.cm., and was found dead the following day; the second monkey (*Cercopithecus ? sp.*) received 0.5 c.cm. This animal recovered quickly from the after-effects of the anæsthetic, and appeared normal until the tenth day succeeding the operation, when he began to show paralysis of his legs. At first the animal could still sit up, but was unable to make use of his legs; his facial expression became anxious, and he appeared very ill. The paralysis progressed during the following two days; the animal remained lying on its side, unable to move, and appeared quite listless. The general condition became worse, and the animal was chloroformed on the evening of the sixteenth day after inoculation (June 6).

During the course of the disease the animal had never shown any rise in temperature.

At the autopsy the animal appeared slightly emaciated. The meninges were hyperæmic, the brain and spinal cord substance, especially the grey matter, appeared œdematous and congested. The site of inoculation did not show any changes. The organs of the body were normal to the naked eye.

Material was preserved in formalin for further microscopical examination, and pieces were imbedded in paraffin and stained by the same methods as the human material.

In microscopical sections of the brain, the meninges showed a slight but diffuse infiltration with round cells, which infiltration was especially marked around the blood vessels in the adventitial sheath. This perivascular infiltration continued along the vessels into the cortex of the brain. In the brain substance were here and there small foci formed by accumulation of round cells, and small hæmorrhages were of common occurrence. On the whole, the grey matter of the large basal ganglia of the brain was more severely affected than the other parts of the brain, and the perivascular infiltration in the adventitial coat was most pronounced.

In the *medulla oblongata* a well marked perivascular infiltration around the congested vessels was present, and the grey substance contained numerous foci of infiltration, the cells consisted of leucocytes, lymphocytes and round cells, and there were numerous small hæmorrhages. Many of the nerve cells appeared shrunken, and possessed a darkly-staining, irregular nucleus.

The spinal cord showed the severest and most widespread lesions. There were, especially around the nerve cells of the anterior horn, accumulation of cells, leucocytes and lymphocytes; the nerve cells appeared in various stages of degeneration. Throughout the grey matter there was a more or less marked general small cell infiltration. Hæmorrhages of different extent were frequently seen, not only in the grey matter, but also in the adjoining white matter. Many of the vessels were surrounded by a thick mantle of round cells, which infiltration was continuous with that of the vessels of the pia-arachnoid space.

Sections of the cerebellum did not show any lesions.

The organs such as heart, muscle, lungs, liver, kidney, lymph glands did not show any striking pathological changes.

A piece of the lumbar part of the spinal cord was ground up in saline solution and injected after trephining into the brain of a second monkey (*Cercopithecus* ? sp.). This animal showed definite signs of illness on the third day after inoculation, remained crouching in a corner, and refused all food. On the fifth day the animal was unable to walk, but still sat up in a corner of the cage. Diarrhœa set in on the following day, and the animal succumbed on the seventh day after inoculation, to an acute attack of gastro-enteritis.

Brain and spinal cord did not show any macroscopical nor microscopical lesions. The mucous mem-

brane of the large intestine was hyperæmic and œdematous.

Another monkey—*Cercopithecus*—(Monkey 2 of Chart VI.), which had been in the animal house for nearly four years, was inoculated with 0.5 c.cm. of a solution of crushed spinal cord of Case 8 on January 2, 1918. This animal remained absolutely normal until the morning of January 14, when his temperature was raised (see Chart VI.), and he began to show signs of weakness in his hind legs. Up to this time he had remained active and jumping about, but now

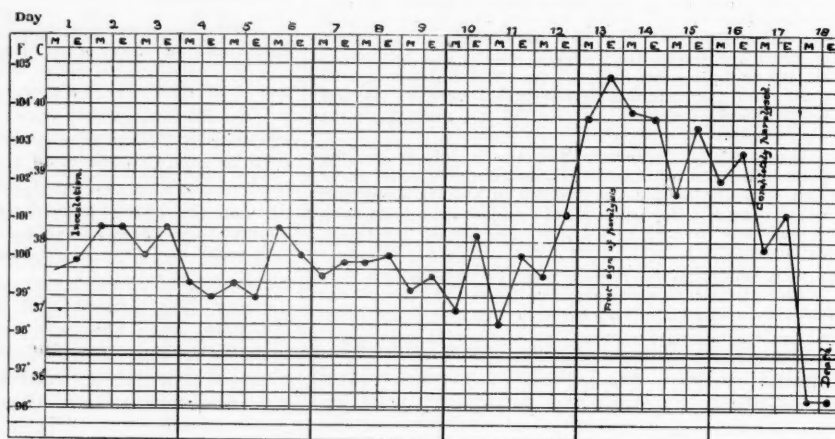


Chart VI.

he walked slowly, and showed slight tremors of his leg muscles; his appetite, however, was still normal. The following day the tremors were more pronounced, and both arms began to show signs of paresis.

On January 16 the animal could only sit up for a short time, falling over on his side; the muscles of the legs were tremulous, and both legs were completely paralysed. The following day he had difficulty in swallowing. When disturbed his whole body trembled. His general condition became gradually worse; he remained lying on his side, began to emaciate, and the paralysis of his legs and arms became complete. The body temperature was normal on the 18th and subnormal on the 19th. As it seemed unlikely that the animal could survive the night, it was killed by means of chloroform and an autopsy performed.

At the post-mortem the meninges of the brain appeared markedly hyperæmic on cross-section; the brain substance was soft, œdematous, and congested, showing numerous hæmorrhages, especially in the large basal ganglia.

The meninges of the spinal cord resembled those of the brain. On cross-section the central canal was plainly visible. The grey substance appeared of a greyish-pink colour, and small hæmorrhages were distinctly visible.

The other organs did not show any pathological lesions.

Pieces of the organs were again preserved in formalin, imbedded in paraffin, and sections prepared for microscopical examination.

The microscopical lesions seen in the sections of the brain and spinal cord of this animal were the same as those observed in the monkey which had been inoculated successfully with the spinal fluid of Case 4, as described above. The meninges of the brain and spinal cord were diffusely infiltrated with round cells.

There was a slight but diffuse infiltration of the grey substance of the brain, and a well marked perivascular infiltration, especially pronounced around the blood vessels of the grey matter below the ependym of the ventricles.

The grey substance of the spinal cord showed diffuse and focal infiltration, degeneration of the nerve cells and neuronophagia, which varied greatly in severity in the different segments, and was on the whole most pronounced in the lumbar region.

The perivascular infiltration was well marked, and small hæmorrhages were not of rare occurrence.

Sections through kidney, liver and spleen did not show any pathological alterations.¹

Discussion.

The foregoing clinical histories of nine cases observed in the Townsville Hospital prove conclusively that the disease in question did not differ in any essential clinical aspect from that occurring about the same time in various parts of Queensland and New South Wales.

The patients, mostly children, showed for a few days previously headache and other signs of malaise, or they were suddenly, without any premonitory warning, attacked by convulsions and a high fever, soon afterwards passing into a state of coma, which lasted for two or more days, and a large percentage finally died with signs of hyperpyrexia (the highest temperature recorded was 42.4° C.) and of respiratory failure. Neither Babinski's nor Kernig's sign was constant, the patellar reflexes were exaggerated, head retraction was marked in some cases, but absent in others. Nystagmus was present now and again. Several of the patients had tremors of the arms and legs; others suffered from frequent and violent convulsions affecting sometimes arms and legs only, or simultaneously the muscles of the trunk; several patients showed true opisthotonos.

Intestinal disturbances were not uncommon; the motions were sometimes greenish, slimy and offensive or constipated. Of the two patients who recovered, only one exhibited definite signs of paralysis of one side, from which he recovered in a very short space of time.

Lumbar puncture performed in nearly all cases yielded a clear cerebro-spinal fluid, apparently not under increased pressure; on centrifugalization it showed only a slight increase in its cellular content.

¹ It seems of interest to record here that 0.5 c.cm. of the blood of a patient suffering from the "mysterious" disease, who subsequently developed complete paralysis of both arms and legs, was inoculated on the fifth day of the disease intracerebrally into a monkey, without causing any symptoms.

The only symptoms constantly present were the onset, with convulsions and high temperature, which symptoms were followed by a state of deep unconsciousness, signs which point to an intense irritation of the whole of the central nervous system.

Somewhat similar clinical symptoms may be observed in cases of epidemic cerebro-spinal meningitis, but a lumbar puncture in these cases enables a definite diagnosis to be made. Lead poisoning, in some seasons not a rare disease, may give rise to convulsions, but in no instances have prolonged high temperatures been observed; moreover, in lead poisoning other symptoms, such as the blue line of the gum, the colic-like pains in the epigastrium and the finding of lead in the urine, allow of the verification of the diagnosis.

In the earliest stages, and especially in patients who died within two days, a differential diagnosis from convulsions due to gastro-intestinal disturbances is well-nigh impossible, as in these cases the temperature may rise suddenly, which rise may be quickly followed by violent convulsions; in several of the cases under observation the motions were greenish, slimy and offensive. But convulsions due to gastro-intestinal disturbances yield, in most cases, readily to vigorous treatment, and are not followed by a long lasting state of deep coma.

Of the diseases of the nervous system which mainly attack children in their early infancy the most important is acute poliomyelitis.

Widespread epidemics which occurred at different times in different localities, and especially large epidemics in America, promoted a detailed clinical study of this interesting disease, and brought to light a number of new facts, especially the absence of paralysis in a percentage of cases, which symptom had hitherto been considered the most important diagnostic sign. Peabody and his collaborators pointed out that, "while not many years ago paralysis was regarded as the essential feature, the one important element of the picture, and the accompanying general symptoms, were more or less disregarded, the tendency of present medical thought is towards the conception of poliomyelitis as an acute infectious disease which often leaves in its wake a variety of disabling end results."¹¹

And when we compare the clinical symptoms of our cases with the symptoms of the "cases of acute poliomyelitis with deep stupor," also termed "cerebral or encephalitic, in which drowsiness preponderates in the early days and gradually deepens into stupor," the similarity is striking, but this type of case is seemingly rare and impossible to diagnose unless paralysis appears. One of our patients who recovered (Case 6) showed hemiplegia, others died before paralysis could have become established.

In these cases only microscopical examination of the central nervous system and the successful inoculation of the virus into monkeys can place the diagnosis beyond doubt.

Of the seven fatal cases, the brain and spinal cord were examined. Four showed lesions typical of acute poliomyelitis, not only affecting the spinal cord, but showing an extensive involvement of the grey matter, and also to a certain extent of the white matter of the brain. The pia mater of the brain and spinal cord showed diffuse and perivascular cell infiltration of

varying degree, which extended with the vessels into the surface layer, and appeared around the blood vessels of the grey substance, where these blood vessels were distended and filled with red blood corpuscles. The grey substance showed a diffuse infiltration with leucocytes and round cells, and here and there a greater number of these cells were collected into small foci, the grey matter around appearing softened.

The ganglion cells showed changes, varying from the earliest stages of degeneration to complete disappearance. Many of them were surrounded by leucocytes, lymphocytes and large mononuclear cells, possessing a large, irregular nucleus, with a fine chromatin network—a process known as neuronophagia.

In three cases (2, 3 and 5), which were clinically in every essential respect identical with the others (4, 7 and 8), the only lesions found were a slight but diffuse infiltration, mainly of the grey matter of the brain and spinal cord, which was present, although to a much less degree, in the white matter; here and there were numerous hemorrhages of varying extent.

The microscopical lesions of our cases are identical with the lesions described by numerous observers—lately by Blanton¹²—as occurring in fatal cases of acute poliomyelitis. They differ pathologically in one respect only, namely, in the extensive involvement of the brain. Small scattered lesions are not uncommonly encountered as autopsy findings in the brain of fatal poliomyelitis cases; the occurrence of extensive cerebral involvement has, however, rarely been demonstrated previously, and it has, in the opinion of Peabody and his collaborators, as yet not been shown that the virus of poliomyelitis exists in typical polioencephalitis by transference of the disease to monkeys.

The two successful monkey experiments furnish conclusive proof that the virus of two cases (4 and 7) suffering from acute poliomyelitis and polioencephalitis, which were clinically indistinguishable from the other cases of the "mysterious disease," caused, when the same symptoms and pathological lesions in these inoculated intracerebrally into monkeys, identically animals, as the virus derived from undoubted cases of poliomyelitis.

The conclusion is therefore justified that the cases of "mysterious disease" occurring in Queensland and New South Wales are caused by the same virus as acute poliomyelitis. The disease differs pathologically only in one respect from typical acute poliomyelitis, namely, in the extensive involvement of the brain; the peculiar clinical aspect seems to have, till now, eluded observation.

Literature.

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- ⁴ *The Medical Journal of Australia*, August 25, 1917, p. 157.
- ⁵ *The Medical Journal of Australia*, August 25, 1917, p. 171.
- ⁶ *The Medical Journal of Australia*, September 29, 1917, p. 270.
- ⁷ *The Medical Journal of Australia*, October 27, 1917, p. 352.
- ⁸ *Annals of Tropical Medicine and Parasitology*, 1907, Vol. I., p. 470.
- ⁹ *Zeitschrift für Immunitätsforschung* (Orig.), 1909, II., p. 377.

¹⁰ *Journal of the American Medical Association*, 1909, Vol. III., p. 639.

¹¹ Peabody, Draper and Dochez, "A Clinical Study of Acute Poliomyelitis" Monograph of the Rockefeller Institute for Medical Research, No. 4, June 1, 1912, p. 54.

¹² Blanton, "An Anatomical Study of Fifteen Cases of Acute Poliomyelitis," *Journal of Medical Research*, 1917, Vol. 36.

Reports of Cases.

APPENDICOPATHIA OXYURICA.

By W. Atkinson Wood, M.D., M.S., D.P.H.,
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The following seven cases of *appendicopathia oxyurica* occurred in my last 57 cases of operation for appendicitis.

Case 1.—M.B., a female, aged 13 years, had had occasional attacks of pain in the region of the right iliac fossa during the last four years. The pains were very severe a week before admission. During the earlier attacks the patient vomited, but more recently she had not done so. The attacks were often accompanied by pain over the right eye. The bowels were opened regularly. There was tenderness over the appendix.

The temperature was normal and the pulse-rate was 96. The operation was performed on March 8, 1917. The appendix was slightly adherent to the caecum and was kinked. The last three centimetres of the appendix on the inner surface were very red, swollen and congested, and there was a sharp demarcation. There were six threadworms on the congested patch. The way in which the threadworms were confined to the middle of the definite, congested patch strongly suggested cause and effect.

Case 2.—H.B., a male, aged 14½ years, had been weakly for several months before admission. He had been worse during the week prior to admission. He complained of headache, pain in the back, neck and limbs, and stiffness of the back. Kernig's sign was positive, but there was no Babinski's reflex. He was constipated and had vomited several times. The blood contained 12,000 leucocytes per cubic millimetre. Lumbar puncture was performed and yielded a clear fluid under increased pressure. The pupils were dilated and the tongue was clean.

The right *rectus abdominis* muscle was rigid. There was tenderness over McBurney's point. The temperature was 37.8° C., the pulse-rate was 100 and the respiratory-rate was 24.

The appendix was removed. It was 8 cm. in length. Externally it appeared to be normal, but the lymphoid tissue within was swollen and congested, and harboured 25 threadworms. The patient recovered rapidly after the operation, and a year later his mother reported that he had been very well since. He was said to have had "threadworm fever" when five years of age, but had not been troubled with them since. At one stage of the illness, we thought that he was suffering from meningitis. This case should be compared with the following.

Case 3.—M.M., a female, aged three years, had had severe pain in the right iliac fossa, vomiting, headache and constiveness ten days before admission. The right leg had been drawn up. The temperature was normal and the pulse-rate 120. She had had a similar attack three months before. During this attack she had screamed with pain in the head and neck. It was thought at the time to have been tubercular meningitis.

The appendix was removed. It was apparently normal on inspection, but contained twelve threadworms and a brown bristle, possibly from a tooth-brush. The lymphoid tissue was swollen and congested. Microscopically a few colon bacilli and a few polymorpho-nuclear cells were found.

The nervous symptoms are well recognized accompaniments of "threadworm appendicitis." The parents now report that the child has been in perfect health since the operation, eight months ago.

Case 4.—M.J., a female, aged 9½ years, complained of pain in the right iliac fossa and in the right loin during

the past two days. The pain came on suddenly and was accompanied by nausea, but no vomiting. She had had a similar attack two months before, but the pain then was in the epigastric region. She was subject to headaches. The right rectus muscle was rigid, and there was tenderness over McBurney's point. The temperature on admission was 38.3° C., and the pulse-rate was 120. The leucocyte count was 15,000. The appendix was apparently normal when viewed from the outside, except that it was rounded and distended. When it was opened it was seen that it contained several threadworms on a swollen and congested lymphoid tissue. The swelling was so marked that there was little lumen. There was a profuse growth of *Bacillus coli communis*.

Case 5.—A female, aged 4 years, had had three attacks of pain in the right iliac fossa during the past two years. The last attack was eight days before admission. There was still some tenderness locally. There was no vomiting or constipation. The attacks generally lasted about three days. The temperature was 37.8° C., the pulse-rate was 96 and the leucocyte count 11,000. The appendix was adherent at its tip and base to the caecum. The lumen was very narrow, owing to the thickened fibrous walls. Threadworms were present on the mucous membrane. There was but little lymphoid tissue. A considerable growth of *Bacillus coli communis* were present. This appendix was removed ten months ago and the mother has just written to say that the child has had no attacks since, but that she still has worms, and "It seems to be a complaint in most of my children."

Case 6.—L.B., a female, aged 11 years, had had pains in the abdomen for the last two years. The pains were sometimes referred to the right iliac fossa. Vomiting at times occurred during the attacks. The patient was usually constipated. The temperature was normal and the pulse-rate was 100. The parents had never seen any worms.

I removed the appendix, which was not easily delivered owing to some adhesions. It was full of plastic faeces and contained five threadworms. The lymphoid tissue was swollen.

Case 7.—R.S., a female, aged 9 years, complained of pain which had come on suddenly six days before. It was localized in the right side of the abdomen. She had been in bed ever since the attack had come on. There had been no vomiting. The pain recurred on the day of admission with increased violence. There was especial tenderness over McBurney's point. The right rectus muscle was rigid. The leucocyte count was 16,800, the temperature was 37.8° C., and the pulse-rate 120 on admission. The appendix was pear-shaped at the extremity, and showed very thickened lymphoid tissue on which were several threadworms. The severe pains had been caused by the great swelling of the lymphoid tissue, distending the appendix.

In thirty normal appendices from the post-mortem room and in fifty other appendices removed by operation, no threadworms were seen macroscopically. If threadworms cause symptoms of appendicitis, apart from inflammation, we would expect these cases to have some common characteristics, which I think is the case.

The histories of my cases were long and intermittent; vomiting was often absent, the temperature was usually normal or only slightly raised, and the leucocytosis slight. Although all the patients had tenderness, the reflex nervous symptoms seemed to be out of all proportion to the severity of the local lesion.

In nearly all the cases there was a swelling of the lymphoid tissue. In two cases this was associated with a profuse and in one case with a considerable growth of *Bacillus coli communis*. In the other cases the colon bacillus was present in numbers met with in normal appendices.

The swelling alone is able to block the lumen, and predispose to acute inflammation, if it does not actually excite it. In two cases adhesions were present, showing that an inflammation had occurred in previous attacks. It can be understood that swollen lymphoid tissue in the appendix can cause pain, just as a swollen tonsil may cause pain.

Matsuoka does not consider appendicectomy desirable,

and holds that the worms should be removed and not the appendix. I doubt if any anthelmintic would reach the worms or their eggs in the appendix, and the danger of delay is much greater than that of the operation.

Threadworms produce a type of catarrhal appendicitis, which is sometimes accompanied by peculiar nervous symptoms. The catarrhal condition itself, though not dangerous to life, may act as a predisposing cause of a more serious inflammation. The appendix should therefore be removed as soon as possible.

Reviews.

THE HEART.

We have before us a medical work of considerable interest, containing several new features in "Clinical Cardiology,"¹ by Selian Neuhoof, an American author. In it a full discussion will be found of electro-cardiography, polygraphy and orthodiascopy, and also the usual clinical bedside methods, as "undue emphasis has been placed on purely instrumental and technical considerations."

A chapter on the therapy of pneumonia from the circulatory standpoint has been added.

The illustrations are numerous and the type and general appearance excellent. There is also a valuable and extensive bibliography. In the first chapter is a résumé of the development of the heart from the simple tube to the normal four chambers, and a description of its anatomy and physiology. As demonstrated by Spalteholz's method, the coronary arteries are not really end-arteries. The normal impulse centre or site of origin of the heart beat is in an area of specialized tissue in a groove between the right auricle and superior vena cava. It is usually known as the sino-auricular (S.A.) node, or the pacemaker. It is richly supplied from the vagus and sympathetic and has a special blood supply. A description of the conduction system, its dissection and injection, nerve and blood supply follows.

A full description is given of the methods for obtaining graphic curves and of the theory and practice of the electrocardiograph. The instrument can be obtained in more compact form than the one shown in the illustration (Plate II.).

In normal rhythm evidence of right or left hypertrophy is obtained from the direction of the peaks R in lead I and lead III. In right hypertrophy R I is small or inverted; R III is tall and upright; the reverse holds in left hypertrophy. This is true for typical cases, but the disposition of the muscle mass, as by adhesions, effusions, etc., will give similar curves. Normal hearts of atypical shape, e.g., the "squatty" or horizontally disposed heart, or the "drop" or vertically disposed heart, give curves similar to the hypertrophies. Congenital dextrocardia can be readily recognized from acquired dextrocardia, because in lead I, all the peaks are inverted. Apart from heart block, lesions of the intra-ventricular conduction system can be diagnosed, whether left or right branch. These cases are frequently associated with "gallop" or "canter" rhythm, due to asynchronous contraction of the ventricle. The prognosis is grave in these cases. The arrhythmias are fully dealt with, though the ætiology suggested does not advance our knowledge, and the pathology of the muscle site of abnormal contractions is still imperfectly understood. The clinical detection without the aid of apparatus is not as clearly shown as in a smaller book on the same subject; and the remarks on prognosis are meagre.

The author is apparently an ardent radiologist, combining his observations with clinical findings, and has added a valuable chapter on orthodiascopy and fluoroscopy.

A point not generally recognized is that the shape of the "normal" heart is not constant. The orthodiascope shows two main types; a narrow heart and a broad heart—a point to be remembered in palpation and percussion. "The left ventricle of the broad heart is flat, lies close to the dia-

¹ Clinical Cardiology, by Selian Neuhoof, B.S., M.D.; 1917. New York: The Macmillan Company. Melbourne: Melville & Mullen, Pty., Ltd., Royal Ave., pp. 302, illustrated. Price, \$1.

phragm and forms a flattened ovoid. The other type is ellipsoid, and rests lightly upon the diaphragm. . . . This type, called the "drop heart," . . . has been found in patients with viscerotoposis . . . and is apparently a type of hypoplasia."

X-rays still remain of most value for the diagnosis of aneurysm.

Eighteen pages are devoted to the physical examination of the heart by inspection, palpation, percussion and auscultation.

The orthodiascope has taught the author that even refined methods of percussion are unreliable no matter how experienced the clinician. He gives directions for mapping out the cardiac outline approximately.

Functional murmurs have assumed new importance owing to their frequency in recruits, and the irritable heart, so commonly occurring in soldiers. The usual view is taken that mitral murmurs (functional) are due to dilatation of the musculature supporting the mitral ring. No explanation is advanced for functional murmurs heard over the base.

As regards tobacco, the author is of the opinion that it is of little importance in causing organic disease of arteries or myocardium. Experiments on rabbits are inconclusive because aortic changes are found in healthy rabbits. The symptoms are caused by nicotine action on the sympathetic nervous system.

Nine pages are devoted to a useful chapter on cardiac syphilis. Aneurysmal dilatation of the descending thoracic aorta is shown to be not infrequent. X-ray examination clinches the diagnosis. Salvarsan is not considered to be contra-indicated in cardio-vascular syphilis. Five decigrammes are given weekly for three doses, in addition to intramuscular injections of mercury twice weekly in conjunction with iodide of potash.

Therapy in general is treated of in a separate chapter. Digitalis vomiting may be prevented by the administration subcutaneously of atropine sulphate (0.0006 gramme or more). The author prefers the tincture and has also found *digipuratum* tablets reliable. Contrary to the experience of others coupled rhythm is not regarded as a warning to stop digitalis. The author uses theobromine sodium salicylate (20 c.cm. of 5% solution = 15 grains) intravenously, where free diuresis is required and the drug is not tolerated by the mouth. The Karrell diet is also found of very great importance in cardio-renal disease with oedema. The diet consists in a daily diet of 800 to 1,000 c.cm. of milk (6 ounces every 3 hours). The patient should rest and should sip the milk slowly. If very hungry, dry toast, crackers or an apple or orange may be allowed. The Karrell diet plus theobromine sodium salicylate may be given for two days alternately with digitalis and an appropriate renal diet. The treatment may be continued till the patient is much improved. Afterwards a "Karrell day" is given at lengthening intervals.

Amongst other drugs, camphor has been found of no value in circulatory disease, neither have colloidal silver preparations, vaccines, or sera proved of benefit in the author's hands. His impression is that too much rest is given after compensation is restored. He advocates massage and mild exercise to produce more rapid return to normal. This book is a valuable contribution to an important subject of such frequent occurrence that practitioners and advanced students will do well to study and consult it.

We have received a complimentary copy of "Our Alma Mater," a splendid annual publication issued by the pupils and staff of St. Ignatius' College, Riverview, New South Wales, and congratulate the Editors on the excellence of the production and still more on the fine tone preserved throughout. St. Ignatius' College is a school of very high standing and is obviously possessed of a tradition of great value. The volume is profusely illustrated by first-class reproductions of the College itself, representations of the College sports and portraits of the old boys who have found a permanent place in the heart of the nation. Many pages are devoted to these brave boys, now lying cold under the sod in France. It is a record of which any school might

well be proud. It would be difficult to devise a better setting for the chronicle of the early achievement of our Empire makers than that presented by the Editors of "Our Alma Mater."

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending March 9, 1918:—

Disease.	Metropolitan District.		Hunter River Combined District.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	5	0	0	0	7	0	12	0
Scarlatina ..	10	0	0	0	17	0	27	0
Diphtheria ..	85	2	7	0	48	0	140	0
* Pul. Tuberculosis	17	8	2	0	0	0	19	8
C'bro-Sp'l Menin.	2	0	0	0	1	0	3	0
Poliomyelitis ..	1	0	0	0	0	0	1	0

* Notifiable only in the Metropolitan and Hunter River Districts, and since October 2, 1916, in the Blue Mountain Shire and Katoombs Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending March 10, 1918:—

Disease.	Metropolitan.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	6	0	14	1	20	1
Scarlatina ..	20	1	27	0	47	1
Diphtheria ..	53	2	36	0	89	2
Pulmonary Tuberculosis	21	4	15	5	36	9
C'bro-Spinal Meningitis	0	—	2	—	2	—
Poliomyelitis ..	13	—	9	—	22	—

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending March 2, 1918:—

Disease.	Adelaide.		Rest of State.		Totals.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	0	0	15	1	15	1
Scarlatina ..	0	0	5	0	5	0
Diphtheria ..	2	0	36	0	38	0
Pulmonary Tuberculosis	3	3	12	6	15	9
Erysipelas ..	1	0	1	0	2	0
Morbili ..	0	0	1	0	1	0
Pertussis ..	0	0	3	0	3	0

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending March 9, 1918:—

Disease.	No. of Cases.
Enteric Fever ..	12
Scarlatina ..	5
Diphtheria ..	41
Pulmonary Tuberculosis	7
Cerebro-Spinal Meningitis	1

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending March 9, 1918:—

Disease.	Hobart.	Launceston.	Country.	Whole State.
Cases.	Cases.	Cases.	Cases.	Cases.
Enteric Fever ..	2	0	2	4
Scarlatina ..	0	1	0	1
Diphtheria ..	0	5	11	16
Pulmonary Tuberculosis	1	1	1	3

The Medical Journal of Australia.

SATURDAY, MARCH 23, 1918.

The Friendly Societies Bill.

The *Friendly Societies Bill*, which was read in the Legislative Assembly of Victoria for the first time on March 6, 1918, may be put aside for a time, on account of the defeat of Mr. Bowser's Ministry, but in view of the fact that it represents the carefully considered attempt on the part of the Government to smooth over the difficulties existing between the Friendly Societies and the medical profession, it will be advisable to analyse its provisions in this place. Should the Bill be pressed through the legislature and receive Royal assent, it will be essential that the medical profession should realize how far its past and future actions may be affected by the clauses of the measure.

The Bill provides for the appointment by the Governor-in-Council of a Board of five persons, two of whom are to represent the friendly societies and two of whom are to represent "medical practitioners." The fifth member is to be the chairman. It will be noted that the friendly societies and their lodges are specifically mentioned, while the "other side" is not the Victorian Branch of the British Medical Association, not those who have in the past acted as medical officers to the friendly society lodges and not the medical profession in Victoria, but merely "medical practitioners." In the same clause it is provided that if a "vacancy occurs by reason of death, resignation, incapacity, refusal to act or otherwise," "the person appointed to fill the vacancy shall be appointed as representing interests similar to those represented by the member through whom the vacancy occurs." It is difficult to presage what the legal interpretation of "medical practitioners" will be. It is not impossible that Mr. Agar Wynne in determining on the provisions, considered the effect of a blank refusal on the part of the Victorian Branch of the British Medical Association to accept two seats on the Board. There is no other body representative of the medical profession.

Accepting the widest interpretation of the term employed, it would be competent for the Governor-in-Council to appoint two registered medical practitioners who were not in touch with the medical profession. These men would not represent the interests of the medical profession and they would not be acceptable to the vast majority of medical practitioners in the State as persons appointed to safeguard those interests.

The Board will be required to investigate the disputes and differences, which led to the resignation of the medical officers of certain friendly societies and their branches, and all matters affecting the merits of the said disputes and differences. The Board will also "make recommendations . . . with respect to what should be provided for in agreements between friendly societies or branches and medical officers thereof." The Board is further empowered to frame a model form of agreement between friendly society lodges and medical officers of friendly society lodges. The subsequent clauses empower the Governor-in-Council or the Minister to require the Board to consider modifications of the proposed agreements. The Board is to have the power to summon witnesses to attend and to take evidence under the provisions of the *Evidence Act, 1915*. It may dispense with legal forms and technicalities and need "not be bound by any rules of evidence, but may inform itself on any matter in such manner as it thinks just."

From these provisions it will be seen that the Board will have no powers beyond making recommendations concerning the conditions under which it suggests that friendly society lodge medical officers should contract with the lodges. In a further clause it is provided that, under certain defined circumstances, the committee of management of a friendly society or lodge may amend its rules without the authority of a meeting of the society or lodge, if the Governor-in-Council publishes in the *Government Gazette* an authority for the amendment. The amended rules will then remain in force until the society or lodge shall have held a meeting and either ratified the amendment or rejected it. There is no provision compelling either the friendly societies or the medical profession to accept the approved

recommendations of the Board, and there is nothing in the Bill which would empower the Minister or the Governor-in-Council to prevent the Victorian Branch of the British Medical Association from adhering to the common form of agreement, in opposition to the agreement drafted by the Board and approved by the Governor-in-Council.

It would be a farce were the Victorian Branch to arrange for representation on the Board. On the other hand, the position would not be prejudiced if two members were to accept seats on the Board. The friendly societies are not in such a safe position, for their rules may be varied or amended, without the consent of the members for the time being at all events, by an Order published in the *Government Gazette*. We have pointed out on several occasions that the medical profession must preserve its right to fix the amount of the concession which it is prepared to extend to persons of small means and to refuse to attend well-to-do persons at reduced rates. No Act of Parliament can compel medical practitioners to sell a half a guinea's worth of skill and knowledge for one shilling to any prosperous citizen who chooses to join a friendly society. The *Friendly Societies Bill* does not attempt to do this. It merely sets up a Board which may make recommendations which would have no binding force and which, if pressed, would widen the breach between the medical profession and the friendly societies. If the friendly societies were wise, they would recognize that the longer they resist the just demands of the medical profession, the greater will be the loss that they will have to sustain. The members of the Victorian Branch of the British Medical Association will stand firmly together, and will not be disturbed because a few unethical practitioners are prepared to undersell them. The signs of discontent on the part of the members in the recently created medical institutes indicate the value the lodge member places on the services of these "imported" practitioners. The solution of the difficulty is the acceptance of the common form of agreement by the friendly societies.

ANTERIOR POLIOMYELITIS.

The important communication by Dr. A. Breinl, published in our issues of last week and of this week, contains an account of observations on the patients

in the Townsville Hospital who were suffering from a disease similar to that which is at present epidemic in Broken Hill and elsewhere, careful examinations carried out in the post-mortem room and of the results of a small series of animal experiments. At a recent meeting of the Victorian Branch of the British Medical Association, Dr. H. Douglas Stephens and Dr. Reginald Webster gave an excellent description of the waning epidemic of anterior poliomyelitis in Victoria. These communications and the discussion that followed will be published in an early issue of this journal. Dr. G. H. Burnell has supplied us with a brief description of some recent cases of the disease from Broken Hill, with microscopical evidence of the nature of the lesions in the brain and spinal cord. With this material at our disposal, there need be no further hesitation in stating that the disease, which has most unfortunately been called the "mysterious disease" or "X disease," is some form of poliomyelitis or poli-encephalitis. The exact aetiology of the disease has still to be determined. The disease, which is now epidemic in Victoria, is undoubtedly identical to the classical acute anterior poliomyelitis, a disease caused by a filter-passing bacterium of a hitherto unknown nature. The virus gains an entrance into the body in a manner that has not yet been determined with certainty. So far all attempts to discover it in the blood have failed and it is therefore improbable that it passes from the point of entrance to the central nervous system through the blood vessels. It appears to have a special affinity for nervous tissue, and its presence in the spinal cord, cerebro-spinal fluid and brain can be demonstrated by the infectivity of these media to the only susceptible animal besides man, namely, the monkey. The virus apparently gives rise to an antibody within the blood, since it has been shown that the serum of patients convalescent from an attack is capable of protecting monkeys from experimental infection.

Dr. Breinl has adduced evidence that the pathological changes met with in patients dead of the "mysterious disease" are identical to those of the encephalitic form of anterior poliomyelitis. Others, including Drs. Cleland, Bradley, Buckley, Mathewson and Burnell have confirmed this finding. He

has apparently reproduced the disease in monkeys by the injection of the cerebro-spinal fluid and of emulsions of the spinal cord of the patients. The microscopical appearances of the spinal cord and brain of the monkeys were typical of experimental poliomyelitis. Dr. Breinl concludes that the disease which he has had an opportunity of studying and which has been epidemic in Broken Hill and other parts of New South Wales, both last summer and this year, are caused by the virus of acute poliomyelitis. While the evidence available is highly suggestive that this conclusion is correct, it cannot be admitted that the proof is conclusive. Owing to the difficulty in obtaining monkeys for experimental purposes he has been unable to conduct the crucial experiments. In the first place, it is necessary to demonstrate that the virus is capable of passing through a porcelain filter. The cerebro-spinal fluid or the emulsion of spinal cord or brain should remain infective after it has been filtered, if the virus contained is that of acute poliomyelitis. A doubt was raised as to the genuineness of the alleged filter-passers at the last International Congress of Medicine (London, 1913). While there is some justification for the opinion that but few of the smallest organisms are true filter-passers, it should be recognized that the term is a relative one, and that a very small micro-organism will pass through a Pasteur-Chamberland filter, provided that the interstices are kept free. Some organisms, such as that of vaccinia, and of rinderpest, will be held back by a Pasteur-Chamberland filter, if properly handled, although they will pass through coarser filters. In the case of Flexner's organism, there should be no difficulty to demonstrate this characteristic, if all visible particles be removed by filtration through paper before the fluid part of the emulsions is sucked into the candles. In the next place, the biological proof that the organism is that of the virus of acute poliomyelitis must be sought in the protection afforded to monkeys by the injection of the serum of a patient convalescent from typical anterior poliomyelitis prior to inoculation with the infective material. Until this evidence is available, the conclusion arrived at by Dr. Breinl must be accepted with reservation.

CUTANEOUS REACTIONS IN SYPHILIS.

Since the description of the cutaneous reaction in tuberculosis by von Pirquet, various investigators have endeavoured to produce analagous diagnostic manifestations in syphilis. In the early trials extracts of the organs of syphilitic patients were found to occasion not infrequently an exanthematic response in those exhibiting signs of tertiary syphilis. Further experience demonstrated that organic extracts from healthy persons called forth in some luetic subjects as powerful a reaction as could be obtained with extracts of organs of syphilitic subjects. Many observers also noticed similar reactions in persons showing neither signs nor symptoms of syphilis. Clinicians have long been aware that casual injuries in syphilitic subjects often develop the appearance of "specific" lesions. Summarizing these facts, Neisser concluded that these cutaneous changes were due to some altered receptivity of the skin, and could be elicited by any form of injury.

Soon after he had succeeded in growing *in vitro* the *Spirochaeta pallida*, Noguchi introduced a sterilized extract. This extract, called *luetin*, was employed for intra-cutaneous injections. In certain persons a papule appeared at the site of inoculation after a few days; in others a pustule developed; while, in others again, a pustule arose after several weeks. The luetin reaction might thus be papular, pustular or torpid. Noguchi noticed that patients in the primary or secondary stages of the disease did not respond to the intra-cutaneous injections, but that some form of reaction appeared towards the end of the first year after energetic treatment, even when the disease seemed to be latent. During the tertiary stage of the disease and in congenital syphilis a pustular reaction was usually obtained. Subsequent studies, however, made it apparent that the luetin reaction might be exhibited by a healthy person or by a patient not suffering from syphilis, yet the positive reaction was produced many times more frequently in the subject of tertiary syphilis. When the results of these luetin tests were compared with the results of Wassermann reactions, it was noted that, in some patients, the two tests were positive, that in others the Wassermann test was positive

and the luetin test negative, while, in those who became cured, both tests became negative.

The irregularity in the results of the cutaneous reactions limited their use as diagnostic agents in syphilis and prevented any widespread application of the method. Physicians and pathologists have preferred to await further studies which would render more precise the meaning of these reactions. The labours of Dr. N. C. Borberg in the neurological wards of the Copenhagen Community Hospital have supplied the missing information. Dr. Borberg observed that no patient with general paralysis gave the reaction in his wards, although Noguchi noticed a positive reaction in 45 out of 72 patients, and Nonne, in all patients coming under his care. Dr. Borberg found that about half his patients with tabes yielded a positive luetin reaction, while two-thirds of the patients with *encephalo-myelopathia luica* gave a cutaneous response. Extending his observations to patients in other wards, Dr. Borberg discovered that some patients with definite tertiary syphilis did not exhibit any cutaneous reaction, that patients who yielded a positive reaction upon admission, showed no reaction at a subsequent examination, and that patients who gave no serological, clinical and morphological reasons for presuming them to be suffering from syphilis, gave a positive luetin test. The more numerous the observations became, the more difficult did it seem to deduce any rational interpretation of the reaction. At last light dawned and a survey of the conditions of the patients at the time the tests were applied made it evident that the administration of iodide of potassium makes the luetin test positive, not only in syphilitic subjects but in all persons. Later experiments showed that some other forms of iodine are equally efficacious in exciting the state of the skin necessary for the production of the reaction. Among 182 patients with manifestations of syphilis, 41 yielded a positive luetin reaction. These 41 persons represented all those receiving potassium iodide medicinally. Among 114 persons not infected with lues, those taking iodides were unfailingly detected by the luetin test. The mode of treatment of patients affected with syphilis determines the quality of the reaction. If the diagnosis of syphilis is made at the clinical examination, the patients may be given

iodides immediately. When the luetin test is carried out as soon as the iodides are administered, the patient shows a papular reaction. If the luetin test is not performed until the iodides have been given for 48 or 72 hours, the typical protuberance, with a tendency to a pustular eruption in the centre, makes its appearance. When there is little suspicion of syphilis an injection of luetin is given, but no iodides are ordered. Later a Wassermann test reveals the condition and iodides are prescribed a week or more after the inoculation. The torpid reaction slowly develops. In non-syphilitic subjects a daily administration of one to three grammes of potassium iodide is needed to evoke the reaction. The cutaneous reaction with luetin cannot be elicited if the test is applied two weeks after the administration of iodides has ceased.

These results confirm the suppositions of Kolmer, Matsunami and Broadwell and those of Scherrick regarding the influence of potassium iodide in provoking the luetin reaction. Despite the assurance of well-known and careful observers that they have noticed the reaction in syphilitic patients who have received absolutely no treatment, we may well doubt whether the luetin reaction is exhibited by any syphilitic patient in the absence of iodides. It is a matter of common knowledge that the administration of iodides and of substances containing iodine leads to the occurrence of pustules under the influence of the particular bacterial excitant. The various manifestations of iodism, for example the degrees of the inflammatory processes from hyperæmia and œdema to necrosis, the catarrh of mucous membranes, conjunctivitis, acne and furunculosis, are due to the same condition of the skin and body coverings which gives rise to the formation of a papule or pustule at the site of inoculation of the extract of spirochaetes. The luetin reaction ceases to be a test for lues. It remains of interest in elucidating the pharmacological action of iodine. It may, indeed, assist in explaining how the resolution of gummata is promoted by the exhibition of potassium iodide. Just as iodine increases the inflammatory reaction around bacteria and the depôt of luetin in the skin, so it may augment the aseptic inflammatory changes around the deposit of spirochaetes in the

gummata, and it may encompass their absorption through the solution of the necrotic granulosomatous tissue.

SKIN FERMENTS.

A very considerable amount of clinical evidence has been collected to demonstrate that the skin has a peculiar but variable power of reacting to bacterial substances. It is well recognized that the percutaneous reaction to tuberculin, first described by von Pirquet, loses in diagnostic significance after childhood. The skin is apparently endowed with a power of reacting to certain substances, and this power may be increased or diminished by artificial means. Moreover, it would seem that in addition to the mechanism involved in the specific part of the skin reactions, there are certain non-specific factors which have yet to be studied and analysed. It has been shown by Rolly that the skin of infants does not react to the majority of bacterial toxins, while the reactivity becomes established in early childhood and is subsequently diminished in adult life. A similar state of affairs exists in regard to the action of pure proteins and impure peptones. It has therefore occurred to Drs. Edna Sexsmith and William F. Petersen that the power of the skin to react to bacterial and other proteins may be dependent on the presence of certain skin ferments. They have, therefore, prepared skin powder from fresh skin and have tested it for the presence of protease, peptidase, lipase, catalase and diastase.¹ In the first place they were able to demonstrate that the skin of children and of adult human beings autolyzed at approximately the same rate and to the same extent as the skin of adult rabbits, frogs, pigs, dogs and cats. Considerable differences were noted in the amount of non-coagulable nitrogen recovered after skin was incubated with acidified casein solution. Human skin gave the highest protease values, while the skin of pigs, cats and frogs did not yield any. The skin of dogs, rabbits, chickens and pigs added to trypsin-casein mixtures produced a definite increase in the amount of non-coagulable nitrogen. They found that foetal pig's skin and the skin of chicken contained peptidase, or rather yielded a reaction for free tryptophane after treatment with Witte's peptone. This action was absent when the skin of other animals was used. They regard this as important. Assuming that the proteolytic power of the skin of young and foetal animals is absent and that the skin of the young animals has a marked power to digest an antigen consisting of a partially autolyzed protein by means of the peptidase present, they offer this ferment activity as a tentative explanation of the difference between the skin reactions in infancy and at later periods of life. The experiments are not conclusive and consequently they should be regarded with caution. In the first place, the skin utilized contained blood in varying quantities. In the second place, there is little to show that proteolysis in the case of the human skin

samples was not produced by bacterial action, since the samples were obtained from "fresh autopsy material." Lastly, the assumption that skin tests are dependent on the disintegration of native protein is by no means established by the available evidence. Notwithstanding these objections, the study of the ferment action of living tissues is of undoubted importance, and the records of the authors should be carefully preserved. The future will probably teach whether we are justified in assuming the presence of special ferments when a ferment action is determined, or whether we have to seek the origin of this action in a peculiar molecular arrangement of one or other of the chemical constituents of the tissue cells and fluids.

THE HEALTH OF FOOTSCRAY.

Dr. H. D. Downing, the Acting Medical Officer of Health in the city of Footscray, issued a report in September last on the examination of school children, conducted with a view to the arrest of an outbreak of diphtheria. A nurse was employed for the purpose of taking swabs from the throats of school children. Between February 6 and June 12, 1917, 6,648 swabbings were taken, in addition to 300 which were taken outside the schools. The result of the routine examination of school children revealed 27 carriers, and, of the examinations conducted elsewhere, revealed four carriers. In 13 instances the association of carriers with subsequent patients was absent. Measures were taken to prevent the children harbouring bacilli and those living in the same houses as the carriers, from returning to school until a further bacteriological examination demonstrated the safety of this.

While Dr. Downing is careful not to draw unjustifiable conclusions from the data at his disposal, he is able to show diagrammatically that in the months of April, May and June the incidence of diphtheria had diminished by 46.3% from the corresponding figures of the previous year, while the decrease in the same period throughout the whole State of Victoria was only 23.8%. We congratulate Dr. Downing on his sound methods of applying prophylaxis in a preventable disease.

VENEREAL DISEASES REGULATIONS.

The following additional regulations under the provisions of Part IIa. of the *Public Health Act, 1903* (Tasmania) (as enacted by the *Public Health Act, 1917*), have been gazetted. It is stated that they will be regarded as having come into operation from September 1, 1917.

15. The Chief Health Officer shall, on receipt of a claim for remuneration from any medical practitioner for the free examination or free treatment by such practitioner of persons pursuant to Part IIa. of the Act, within three months of such examination or treatment, and upon receipt of full particulars regarding each case, including the name and address of the patient, pay a reasonable remuneration for such examination or treatment: Provided that no such payment shall be made unless the Chief Health Officer is satisfied that the patient in question has not sufficient means to pay for examination or treatment.

16. The Minister, on the recommendation of the Chief Health Officer, may authorize the payment of a reasonable remuneration to the medical officer of any hospital for the examination and treatment of cases of venereal disease at such hospital.

17. A fee of Two Shillings shall be paid by the Chief Health Officer to medical practitioners for each case of venereal disease notified to the Chief Health Officer pursuant to Section 41 (f) of the Act: Provided that such practitioner is not receiving remuneration from the State for treatment of such case.

¹ The Journal of Experimental Medicine, February 1, 1918.

Abstracts from Current Medical Literature.

PATHOLOGY.

(97) Pneumococci in Nasal Mucus.

E. Valentine points out that the pneumococcus has been assumed to be the infective agent in some common colds because of its known pathogenic character and of its predominance in the mucous discharge in these cases (*Journ. Exper. Medicine*, January, 1918). The types of the pneumococci found under these conditions, had not been accurately determined, though *pneumococcus mucosus* has been identified upon cultural qualities. The author has made an examination of the types of pneumococci present in the nasal secretion of those suffering from common colds in order to ascertain whether the fixed types of the pneumococcus occur in these cases. By the injection of the material into mice pneumococci have been recovered from 37 out of 65 patients. In addition, strains of pneumococci have been separated from six persons by direct plating of the mucus upon blood agar. The strains of the organism have been determined by agglutination with immune horse sera and the results have been checked by further agglutinative reactions with immune rabbit sera when doubtful reactions have been observed with the equine antisera. The isolated strain has been identified as belonging to Type I on two occasions, to Type II. on two occasions, to Type III. on four occasions and to Type IV. on 35 occasions. The author has noted that the micro-organisms of Type II. and of one of the strains of Type III. have been obtained from persons who had been in contact with patients suffering from lobar pneumonia. The persons from whom the microbes of the other fixed types have been obtained, had not apparently been in contact with cases of lobar pneumonia. Since pneumococci of the fixed types have been isolated from these persons, the author believes that common colds serve as a source of infection in the dissemination of lobar pneumonia. The patients from whom the two strains of Type I. have been separated, have shown severe prostration and a temperature of 39° C. (102° F.). In both these cases plates made direct from the excretion, have revealed that more than 75% of the bacteria in the mucus were pneumococci of Type I. The author concludes from this fact that the pneumococcus has been the bacterial agent in producing the cold. The common cold must, therefore, added to the three known sources of contagion of lobar pneumonia, namely, a patient with pneumonia, the convalescent from the disease and the contact carrier. One of the persons from whom the pneumococci of Type I. have been isolated, has been re-examined for a period of two years. The pneumococci of this type

have been found in diminished numbers during the first year but not later.

(98) Cultivation of Tubercle Bacilli from Blood.

M. C. Clough has grown tubercle bacilli from the circulating blood of five patients suffering from miliary tuberculosis (*Johns Hopkins Hosp. Bull.*, December, 1917). Three methods have been employed. The blood is added to glycerine broth flasks, which are incubated for five or six weeks. The sediment is separated and planted on blood-agar slants. The tubes are sealed with paraffin and incubated. Three cultures have been obtained by this method. In order to diminish the time needed to render growth visible, the preliminary incubation has been omitted. The blood is hæmolyzed by water and the sediment placed on the blood-agar slants. Growths have been obtained in 7, 13 and 25 days. Experiments are being carried out on the sediment of the laked blood by digestion with antiformin and implantation of the washed sediment upon blood-agar slants. To be of value cultural methods of demonstrating tubercle bacilli must give positive results sooner and more constantly than inoculation into guinea-pigs. Growths can be obtained in three weeks. Injection of blood into guinea-pigs is not infrequently followed by a slow development of tuberculosis. Comparative experiments show that the bacilli may be found by culture, although the blood does not induce tuberculosis in guinea-pigs. These experiments have not, however, been performed on a sufficiently extensive scale to establish this conclusion with certainty. Direct examination of blood in smears is not reliable for the detection of tubercle bacilli. In none of the bloods in which the bacilli were cultivated, could bacilli be found in smears. The author appends an historical review of the literature on the existence of tubercle bacilli in the blood, and gives an account of the application of the methods used for detecting the bacilli in the blood to pleural fluids, pericardial exudates, cerebro-spinal fluids, the contents of joints, pus from an abscess of the ribs and ascitic fluid. The results obtained have been satisfactory in confirming the diagnosis of tuberculosis made by the detection of bacilli in smears. Attempts to obtain blood cultures in cases of phthisis have not been successful.

(99) Fate of Streptococci.

J. G. Hopkins and J. T. Parker (*Journ. Exper. Medicine*, January, 1918) have studied the course of streptococcal infections in animals. They have noted that the bacteria disappear from the blood in a few hours after intravenous injections of hæmolytic streptococci, and that the microbes reappear in the blood some hours later. Differences are observed in the course of the infection according to the susceptibility of the animal to the micro-organism. In cats, which are resistant

to infection, the streptococci are rapidly and completely withdrawn from the blood, frequently in less than an hour, but are found most numerous in the lungs, less numerous in the liver and spleen and, in small numbers, in the bone-marrow, lymph nodes, muscles and kidneys. The bacteria in the lungs are dead in 5 to 8 hours, although they may be visible in films for days. In the liver the streptococci die less quickly, while they may remain viable in the spleen for some days. The bactericidal properties of the lungs can be investigated with portions of excised lung but not with extracts of the organ. Streptococci injected into a susceptible animal as a rabbit, are also promptly removed from the circulating blood, but are distributed in different proportions. They are found most numerous in the liver, lungs and spleen, and also in large numbers, in the muscles. As in the cat the streptococci soon die in the lungs and liver. On the other hand those in the muscles multiply rapidly. As the streptococci increase in numbers in the muscles, they re-enter the blood. Attempts to immunize rabbits have not been successful, but the distribution of the streptococci in some of the treated animals has approached that found in the cat.

(100) Localization of Streptococcal Lesions.

H. K. Detweiler and H. B. Maitland (*Journ. Exper. Medicine*, January, 1918) have studied the distribution of *Streptococcus viridans* in the different organs of the rabbit after its intravenous inoculation into the marginal vein of the ear. It has long been known that particular bacteria show a predilection for certain tissues. Meningococci multiply in the meninges, *Bacillus diphtheriae* in the mucous membrane of the throat, *Bacillus typhosus* in lymphoid tissue, pneumococci in the lungs and *Bacillus pertussis* on the tracheal mucous membrane. Some investigators have asserted that different strains of the same organisms show distinct localizing powers in their selective action upon animal tissues. The streptococci used for these inoculations were obtained from the appendix, gall-bladder, tonsils and neighbourhood of the teeth in the human subject. Thirty strains, in all, have been tested, both immediately after isolation and after varying amounts of sub-culture. The location of the lesions in the rabbits bears no relation to the origin of the organism or to the lesions produced by it in the patient from whom it has been isolated. Although the micro-organisms lead to changes in great variety of tissues and organs, *Streptococcus viridans*, regardless of its site of origin in the patient, produces most lesions in the heart and joints of the rabbit. While certain strains have appeared to possess a selective action during several generations for the central nervous system or for the kidneys, this property has disappeared on further passage through rabbits or after additional subculture *in vitro*.

PEDIATRICS.

(101) Intra-peritoneal Injection of Saline Solution.

The parenteral administration of water is a widely used therapeutic measure in the treatment of severe nutritional disorders of infants. Vomiting and diarrhoea may be so severe as to prevent water administration by mouth or rectum; intravenous injection is often difficult and is inclined to throw too great a strain on the circulation. Chief reliance has heretofore been placed on the subcutaneous method. Blackfan and Maxey (*Amer. Journ. Dis. of Children*, January, 1918) point out that an efficient method for the administration of water for therapeutic purposes must fulfil several important requirements: (1) It must admit of the administration of comparatively large amounts at one time and permit of repetition at frequent intervals; (2) the water must be quickly absorbed; (3) the method must be simple of procedure, practicable and accompanied by a minimum of risk to the patient. Direct injection into the peritoneal cavity fulfils all these requirements. The amount of water given depends on the size of the infant, 100 to 250 c.cm. in small infants, 300 to 400 c.cm. in large ones, the injection to be repeated every 12 or 24 hours. By experiment the fluid was found to disappear into the blood stream within a few hours. They advise the following technique: The patient lies in the recumbent posture with the movements of arms and legs restricted by a special jacket. The most favourable site for the introduction of the needle is through the *linea alba* just below the umbilicus. The skin is prepared after the usual surgical method, with iodine and alcohol, and may be anaesthetized with ethyl chloride. The solution is introduced by gravity from an infusion bottle, and consists of physiological (0.8% sodium chloride) saline solution made with freshly distilled water and promptly sterilized and cooled to 38° C. The skin and subcutaneous tissues are picked up between thumb and forefinger and the needle, pointing upward, is inserted at an oblique angle. After penetration of the needle, the fluid is allowed to flow into the abdomen until the abdomen becomes slightly distended. It should not be introduced too rapidly or in too large quantities, as it may embarrass the respiratory and circulatory systems. From 100 to 250 c.cm. can be introduced in from 15 to 20 minutes. This quantity flows in so rapidly as not to become cooled below body temperature. The needle is withdrawn and a sterile dressing applied. The injection may be repeated every 12 to 24 hours, either through the *linea alba* or external to the left rectus muscle, half way between costal margin and anterior superior iliac spine. Occasionally a use of temperature to 38°-39.5° C. may follow the injection, but it usually subsides in 12 to 48 hours. After repeated injections there may be oedema. This method of fluid administration is

especially valuable where water as a therapeutic agent is urgently demanded.

(102) Banana as a Food for Children.

After a series of experiments, feeding bananas to children from two years of age upwards and estimating the amount of starch excreted in each case, Pease and Rose (*Amer. Journ. of Dis. of Children*, November, 1917) came to the conclusion that the banana is a useful fruit, that can with profit enter liberally into the child's dietary, provided it is fully ripe or well cooked. If eaten baked in the yellow stage of ripeness, or if eaten raw when fully ripe, banana makes a delightful and highly nutritious article of food. Its composition does not warrant the use of the banana as the main component of the child's dietary, but it can compete well with other fruits and is decidedly to be preferred to sweets. The nutritive value is relatively high, approximately one calory per gramme of the pulp; and its carbohydrates, when it is fully ripe or cooked, are not less assimilable than those of cereals or potatoes. In the raw food, the digestibility is directly proportionate to the ripeness of the fruit. There is no positive evidence that the banana influences bowel movements. In the many tests there was no suggestion whatever of any deleterious effect from consuming large amounts of fully ripe bananas. Prolonged use of the under-ripe fruit, on the other hand, led to the appearance of undesirable symptoms. Ripeness can be readily determined by the colour and texture of the peel. In ripening the peel changes in colour from its original deep green to a dark brown. In this change the colour passes through several yellow stages, which are usually taken to be signs of ripeness, but a yellow banana is not necessarily a ripe banana, and if eaten raw, while it still has a green cast to the yellow colour, the availability of its carbohydrates is comparatively low, and the effect on the digestion injurious. The banana should not be eaten raw until after the brown spots begin to appear on the full golden yellow fruit. A completely browned skin is not in itself a sign of over-ripeness, and such fruit should be judged by the texture of the pulp. The brown colour of the peel must not be confused with the darkening due to bruises. An injured banana is soon invaded by moulds and yeasts, both through the abrasions and the broken end. The banana properly handled and allowed to ripen well, is a wholesome food, uncontaminated by dirt and pathogenic organisms.

(103) Pancreatic Vitamine in Marasmus.

By the use of a special form of Fuller's earth (Floyd's reagent) and the pancreatic glands of lambs, Eddy and Roper (*Amer. Journ. of Dis. of Children*, September, 1917) obtained a powder, containing the vitamine present in 54 times its weight of pancreas, the pow-

der otherwise being inert and the vitamine effect unmodified by the presence of other factors peculiar to the crude pancreatic solution employed. Ten cases of malnutrition, including six cases of marasmus, were treated with this powder, and in one case white rats were used as controls. The classification was into three groups. Group I. consisted of a single patient, a typical marasmic, whose growth stimulation was apparently induced by vitamine, while being fed upon a carefully controlled, practically vitamine free diet of cereal, orange juice and condensed milk. The five control rats were fed on a diet identical with that of the baby, with an equivalent vitamine content. Group II. consisted of five children who had suffered loss of weight or failure to grow on the diets previously supplied, though the diets presented considerable variety. Vitamine was the only addition made, until an increase in growth had begun, and more food demanded on that account. The four children in Group III. had suffered from malnutrition, were on various diets, but had already commenced to grow. From a study of Group I. the authors concluded that (a) a diet of condensed milk and cereal is markedly deficient in natural vitamins; (b) the addition of pancreatic vitamins to such a diet influenced the growth of both rats and the child; (c) the dosage employed (2 grammes of powder daily) in the case of the infant was sufficient to produce growth at a normal rate, though not to the extent noted in the rats; (d) the treatment produced no harmful results. Group II. cases gave further evidence of the value of the vitamine powder in stimulating growth, and also showed that the use of vitamine ultimately resulted in the development of the power to use the natural vitamins in the food. Group III. cases gave no positive evidence, as growth had already begun; but, at the least, they did not contradict the evidence of Groups I. and II.

(104) Therapeutic Use of Blood Serum.

Impressed with the excellent results following an injection of blood serum, in hæmorrhagic disease of the newborn, Freeman (*Arch. of Pediatrics*, October, 1917) decided to employ this treatment in other conditions of infancy, such as marasmus. Horse serum was employed, the initial dose being 20 c.cm. This dose was repeated when necessary, at intervals of several days. Where several injections were given, it was deemed advisable to test the infant for "sensitization" by injecting a drop or two of the serum, before the larger amount was administered. If an urticarial rash appeared, the child was considered to be sensitized and no further dose was injected. The author reports six cases of "failure to gain in weight" treated by this method. He also deals with a case diagnosed as probable miliary tuberculosis with consolidation and cavity formation, and with another of acute middle-ear disease, with both mastoids affected and operated upon. The results in all these cases were highly satisfactory.

Audited and found correct.
J. V. M. WOOD & Co., F.I.A.V., F.C.P.A.,
Auditors.

A meeting of the Queensland Branch was held on February 1, 1918, at the B.M.A. Rooms, Adelaide Street, Brisbane, Dr. J. Espie Dods, the President, in the chair.

The meeting considered a set of draft rules, copies of which had been circulated to all members of the Branch. After a discussion and the acceptance of certain amendments, the rules were adopted.

The President referred to a resolution which had been passed in September, 1914, as follows:—

That the model agreement, as adopted, stand, except that in view of the conditions caused by the war, the Queensland Branch of the British Medical Association decides that no increase at present in previously existing fees for lodge patients be asked for.

He reminded the members of the subsequent events in connexion with this subject. Some of the lodges in Brisbane had agreed to pay an annual capitation fee of £1 per member. The Council therefore asked the members whether they were desirous of attempting to introduce an increased capitation rate in all lodge agreements.

Dr. W. N. Robertson said that a number of lodges had already agreed to pay more, and he thought that they would all fall into line, if they were approached.

Dr. G. W. F. Paul held that it would be wrong to ask for an increase at present.

Dr. C. A. Thelander pointed out that the expenses of medical practitioners had increased by at least 25% during recent years. Lodge surgeons had to take so many patients on to their lists in order to make a living, that they could no longer cope with their night work. The remedy was that the rate of payment should be higher and the number of patients fewer.

Dr. F. Page informed the members that two lodges in his district had increased their capitation rate to £1.

Dr. L. P. Winterbotham moved and Dr. Helen Shaw seconded:—

That all members be supported in any action they may take for an increase in fees, to the amount of £1 per annum per member in Brisbane; elsewhere the amount to be left to the discretion of the Council.

The motion was carried.

Dr. A. H. Carvosso said that it would be difficult to carry this resolution into effect, as all the town lodges had several medical officers. If one raised his fee, another might not do so.

Dr. C. A. Thelander suggested that the Branch should recognize in some suitable manner the services which Dr. J. J. Harris had rendered to the profession. It was decided that the matter should be left in the hands of the Council.

Dr. L. N. McKillop gave notice that he would move:—

That in future every third meeting of the Branch be purely scientific, and that members be invited to submit papers, specimens, etc., for discussion.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on March 1, 1918, Dr. Espie Dods, the President, in the chair.

The President welcomed Colonel A. Sutton, C.M.G., C.B., and congratulated him upon his safe return. He thanked him in the name of the Branch for the good work he had carried out in the Army. He was the first member of the Branch to have been appointed a Commander of the Order of Saint Michael and Saint George and a Commander of the Bath. He was the only member, except the late Sir John Thomson, who had been created an Associate of the Order of Saint John of Jerusalem.

Colonel Sutton thanked Dr. Espie Dods for his kind remarks and stated that he was extremely pleased to see him occupying the chair of the Branch. He said that the honours which had been bestowed upon him had been given him for the good work done by the Division to which he had been attached.

Dr. L. M. McKillop introduced the motion of which he had given notice (see above). He pointed out that the Queensland Branch was the only Branch which did not have purely scientific meetings. They were losing sight of the fact that the British Medical Association was primarily a scientific association.

Dr. R. Graham Brown seconded the motion. He expressed the opinion that the members should help each other more frequently by discussing scientific subjects.

Dr. J. C. Hemsley, the Honorary Secretary, moved as an amendment:—

That the first half-hour and no more shall be devoted to private, Branch, ethical, and medico-political business, including the reading of the minutes. That any business unfinished at 8.45 p.m. may not be proceeded with. That, if urgent, a special meeting may be called to consider or complete such business.

Dr. W. N. Robertson seconded the amendment, which was carried.

Dr. C. A. Thelander gave notice that he would move:—

That this Branch request the Council to determine what is a fair maximum number of lodge patients for any doctor to attend to, and to submit regulations by which no member shall be permitted to exceed this maximum.

The undermentioned have been elected as members of the New South Wales Branch:—

Thorleigh Farranridge, M.B., Ch.M. (1917, Univ. Sydney), 50 Wigram Road, Glebe Point.

John Leslie Harrison, M.B. (1916, Univ. Sydney), Thompson Street, Mosman.

Arthur Charles Robert Todd, M.B. (1914, Univ. Sydney), Dungog.

Charles Horsfall Armitage, M.B., Ch.M. (1915, Univ. Sydney), 40 Avenue Road, Mosman.

Our attention has been called to the fact that some members of the Victorian Branch and of the New South Wales Branch of the British Medical Association have received notices from the Financial Secretary and Business Manager of the British Medical Association in London, asking for the payment of their annual subscriptions to the Association. These notices have probably been sent out in error. Members are reminded that they should pay their subscriptions to the Honorary Treasurers of the Branch in whose area they reside. This subscription covers all liabilities of the members to the Association.

THE ORDER OF THE BRITISH EMPIRE.

His Majesty the King has been graciously pleased to appoint Dr. William James Barrett a Knight Commander of the Most Excellent Order of the British Empire, and Dr. Reginald Edward Weigall and Dr. Edith Barrett Officers of the same Order. We tender our sincere congratulations to the recipients of these distinctions.

Naval and Military.

APPOINTMENTS.

The following appointments, etc., have been announced in the *Commonwealth of Australia Gazette*, No. 36, of March 14, 1918:—

Army Medical Corps.

To be temporary Colonel—

Lieutenant-Colonel J. A. Dick, whilst commanding 1st Australian General Hospital. 12th October, 1917.

To be temporary Major—

Captain H. C. Adams, whilst employed as Senior Physician, No. 1 Australian Auxiliary Hospital. 1st December, 1917.

Lieutenant-Colonel D. G. Croll is granted the temporary rank of Colonel whilst holding the appointment of Assistant Director Medical Services, Australian and New Zealand Mounted Division. 23rd August, 1917.

Major J. R. McN. Beith is granted the temporary rank of Lieutenant-Colonel whilst commanding 2nd Light Horse Field Ambulance. 23rd October, 1917.

Major A. M. Wilson, from No. 9 Field Ambulance, to command No. 7 Field Ambulance, and is granted the temporary rank of Lieutenant-Colonel whilst commanding. 2nd December, 1917.

Major C. Shellshear is granted the temporary rank of Lieutenant-Colonel. 21st October, 1917.

Major F. T. Beamish, to be Deputy Assistant Director Medical Services, Australian Imperial Force Depôts in United Kingdom. 21st November, 1917.

Captain H. Powell, M.C., to be Registrar No. 3 Australian General Hospital, and is granted the temporary rank of Major whilst so employed. 21st November, 1917.

Captain (temporary Major) A. W. H. à'Court relinquished the temporary rank of Major on ceasing to be Second-in-Command No. 1 Hospital Ship. 15th November, 1917.

2nd Military District.

Australian Army Medical Corps—

Major W. H. Read is Officer Commanding No. 21 Australian Auxiliary Hospital (temporarily) with temporary rank and pay of Lieutenant-Colonel at rate prescribed by Financial and Allowance Regulation 340. Dated 1st January, 1918.

Honorary Captain R. D. Heggaton is a Member of Permanent Medical Referee Board, with temporary rank of Major, and pay consolidated at rate of £550 per annum. Dated 9th February, 1918.

Captain (Honorary Major) A. P. Wall is granted temporary rank of Major whilst employed as President Permanent Medical Referee Board (part-time). Dated 7th January, 1918.

Captain (Honorary Major) H. C. E. Donovan is granted temporary rank and pay of Major whilst employed as Member of Permanent Medical Referee Board (part-time). Dated 23rd January, 1918.

Australian Army Medical Corps Reserve—

Arthur Moorehouse Watkins is Honorary Captain. Dated 1st February, 1918.

Major A. S. Bowman is transferred from Retired List, and is Honorary Major. Dated 30th January, 1918.

3rd Military District.

Australian Army Medical Corps (Permanent Services)—

Honorary Captain W. Macpherson, Reserve of Officers, is Quartermaster, No. 5 Australian General Hospital (temporarily), with pay at rate of £250 per annum, inclusive of all allowances except travelling. Dated 5th March, 1918.

Australian Army Medical Corps—

Major (Honorary Lieutenant-Colonel) C. C. MacKnight is President, Permanent Medical Referee Board, with pay consolidated at rate of £685 per annum. Dated 22nd January, 1918.

Honorary Captain A. E. Deravin is Member of Permanent Medical Referee Board, with temporary rank of Major, and pay consolidated at rate of £550 per annum. Dated 22nd January, 1918.

Australian Army Medical Corps Reserve—

Harold Edgar Jackson, Robert Douglas Aitchison and Eric Neville Harle Gandavia are Honorary Captains. Dated 15th February, 1918.

Honorary Captain H. D. L. Murray is Honorary Major. Dated 1st February, 1918.

4th Military District.

Australian Army Medical Corps—

Major (Honorary Colonel) C. T. C. De Crespigny, D.S.O., is Consultant Physician, No. 7 Australian General Hospital (part-time), with pay as for rank of Lieutenant-Colonel at rate prescribed by Financial and Allowance Regulation 340. Dated 14th January, 1918.

5th Military District

Australian Army Medical Corps Reserve—

Honorary Major P. M. O'Meara is Honorary Lieutenant-Colonel. Dated 25th February, 1918.

6th Military District.

Australian Army Medical Corps Reserve—

Harry Christian Watson is Honorary Captain. Dated 1st February, 1918.

To be Brevet Lieutenant-Colonel—

Major R. M. Downes, Australian Army Medical Corps.

To be Brevet Majors—

Captain G. P. Dixon, Australian Army Medical Corps; Captain A. L. Dawson, Australian Army Medical Corps. 24th September, 1917.

1st Military District.

To be Honorary Major—

A. S. Clowes, late Major, Australian Imperial Force. Dated 20th June, 1917.

To be Honorary Captains—

R. P. Hill, late Captain, Australian Imperial Force. Dated 30th November, 1915.

D. T. Keyes, late Captain, Australian Imperial Force. Dated 19th July, 1916.

To be Quartermaster and Honorary Captain—

J. W. Blacklock, late Quartermaster and Honorary Captain, Australian Imperial Force. Dated 1st May, 1916.

2nd Military District.

To be Honorary Colonel—

Sir A. MacCormick, late Colonel, Australian Imperial Force. Dated 10th May, 1917.

To be Honorary Majors—

A. Pentland, late Major, Australian Imperial Force. Dated 15th October, 1916.

V. Benjafield, late Major, Australian Imperial Force. Dated 14th November, 1916.

R. E. McClelland, late Major, Australian Imperial Force. Dated 27th April, 1917.

A. E. Colvin, C. S. Browne and A. J. Cahill, late Majors, Australian Imperial Force. Dated 24th August, 1917.

To be Honorary Captains—

F. M. Purchas, late Captain, Australian Imperial Force. Dated 30th September, 1915.

W. Fenwick, M. C., late Captain, Australian Imperial Force. Dated 11th October, 1915.

B. M. Sampson, late Captain, Australian Imperial Force. Dated 15th June, 1916.

C. R. Quinn, late Captain, Australian Imperial Force. Dated 31st October, 1916.

3rd Military District.

To be Honorary Majors—

R. S. Whitford, late Major, Australian Imperial Force. Dated 14th November, 1916.

H. Pern, late Major, Australian Imperial Force. Dated 24th August, 1917.

To be Honorary Captains—

E. R. Mackay, late Captain, Australian Imperial Force. Dated 14th July, 1915.

F. L. Nance, late Captain, Australian Imperial Force. Dated 1st March, 1916.

6th Military District.

To be Honorary Major—

B. Ingram, late Major, Australian Imperial Force. Dated 14th November, 1916.

To be Honorary Captain—

C. H. Smith-Hozier, late Captain, Australian Imperial Force. Dated 11th October, 1915.

THE REGISTRATION AND CONTROL OF MIDWIVES.

The regulations relating to the registration and better training of midwives in Victoria have been reconsidered, and a new set has received the approval of the Midwives Board. These new regulations take effect as from March 1, 1918.

Part I. deals with the proceedings of the Midwives Board. Part II. defines the conditions entitling to registration. The clauses are as follows:—

1. No woman whatsoever is entitled to be registered unless she—

(a) is at least 23 years of age; and

(b) produces two certificates of good character in the prescribed form; and

(c) has paid the prescribed registration fee of five shillings.

2. Every woman claiming to be entitled to be registered shall make application in the form prescribed.

Registration of Women already in Practice at the Commencement of the Act.

3. Any woman who—

(a) prior to December, 1915, held a certificate in midwifery from the Women's Hospital, Melbourne, or such other certificate as is approved by the Board; or

(b) before the 1st day of January, 1919, produces evidence satisfactory to the Board that prior to December, 1915, she had been in *bona fide* practice as a midwife for at least two years within Victoria or any other State in the Commonwealth of Australia or the Dominion of New Zealand.

is entitled to be registered.

4. Every woman applying for registration under the provisions of sub-clause (b) of the preceding clause shall send with her application evidence of *bona fide* practice in any or all of the prescribed forms.

Registration after Training and Examination.

5. Any woman who—

(a) completes the prescribed course of training and passes the prescribed examination; or

(b) was, prior to December, 1915, being trained as a midwife at some hospital approved by the Board and at the date of application for examination has at that or some other hospital approved by the Board completed a period of training amounting to at least one year and has passed such examinations as the Board prescribes; or

(c) before the 1st day of January, 1919, produces evidence satisfactory to the Board that prior to December, 1915, she has been in *bona fide* practice as a midwife for at least one year within Victoria or any other part of His Majesty's Dominions, and has passed such examinations as the Board requires,

is entitled to be registered.

Registration of Military Nurses.

6. Any woman who has served outside of Victoria in the present war as a nurse with His Majesty's naval or military forces, or the naval or military forces of the Commonwealth, may apply for registration under the provision of clause 3 (b) or clause 5 (c) at any time.

Reciprocal Registration.

7. Any woman who produces evidence satisfactory to the Board that she had been trained as a midwife and registered or certified in any other part of His Majesty's Dominions in which there is for the time being in force any Act or Ordinance for the registration and certification of midwives under a public authority and which admits to its roll or register midwives registered under this Act on reciprocal terms shall be entitled to be registered;

Provided that the standard of training and examination required in such other part of His Majesty's Dominions is, in the opinion of the Board, equivalent to the standard prescribed in pursuance of the Midwives Acts, Victoria.

Certificate of Registration.

8. Every woman who is entitled to be registered shall receive a certificate of registration and her name shall be entered in the register.

Part III. contains the syllabus of the lectures to be attended by the midwifery pupil in midwifery, the care and feeding of infants, invalid cookery and general nursing. This Part also prescribes the form of practical instruction and experience and defines the places at which the pupil may receive her training.

Part IV. deals with the prescribed examinations. The candidate has to produce evidence of having completed the courses of training and of having attained a certain standard of general education. She is then examined on the subjects included in the syllabus of instruction. Special clauses are set up to meet the requirements of women who were in training at the commencement of the Act or those who present themselves for examination after twelve months' practice.

Part V. is of importance to the public. It contains regulations for the control of the midwife's practice.

Part V.—Regulating the Practice of Midwives.

1. Every midwife who has been in attendance, whether as a midwife or as a nurse, upon a patient, or in contact with a person, suffering from any septic condition following childbirth or miscarriage or from any other condition supposed to be infectious, or is herself liable to be a source of infection, shall disinfect herself and her clothing and shall have all instruments and appliances sterilized.

2. No midwife in attendance on a septic case or having an inflamed or septic wound on her hand shall at the same time attend any other case of confinement until she has received permission from the Board to resume practice.

3. No midwife in charge of a case of labour shall leave the patient without giving an address by which she can be found without delay; and, after the commencement of the second stage, she shall stay with the patient until at least one hour after the expulsion of the placenta, and as long after that as may be necessary. In cases where a doctor has been sent for on account of the labour being abnormal or of there being threatened danger, she shall await his arrival and faithfully carry out his instructions.

4. Every midwife shall take and record the pulse and temperature of the patient twice daily, and oftener if necessary, and enter same on chart.

5. No midwife who has contracted any infectious disease shall attend any midwifery case until she has ceased to be liable to convey infection as certified to by a medical practitioner.

6. No midwife who has been in attendance on any person suffering from any septic condition following childbirth or from an infectious disease or who has been in contact with any person so suffering shall attend any midwifery cases until she has disinfected herself, clothing, instruments, and appliances in the manner prescribed in the "Rules and Instructions for the Guidance of Midwives"; nor until she has received the permission of the Board to resume practice.

7. Every midwife shall notify the Board in the prescribed form of her intention to practise as a midwife.

8. Every midwife shall, in the month of December of each year, notify the Board in the prescribed form of her intention to continue in practice, and shall at the same time pay a fee of two shillings and sixpence for renewal of registration.

9. Every midwife shall without delay notify the Board in the prescribed form of any change of her address.

10. Every midwife shall notify the Board in the prescribed form every case of death which occurs in her practice when no medical practitioner is in attendance.

11. Every midwife shall notify the Board in the prescribed form every case of still-birth which occurs in her practice when no medical practitioner is in attendance.

12. Every midwife shall allow any person authorized by the Board for the purpose to inspect her instruments and appliances.

13. Every midwife shall immediately report to the Board if she contract any infectious disease.

14. Every midwife shall immediately report to the Board if she has been in attendance on any case of infectious disease.

15. Every midwife shall keep a record of cases in the prescribed form, and such record shall be submitted for

inspection to any person authorized by the Board to inspect same.

16. Every midwife shall carry out and obey the rules and instructions drawn up by the Midwives Board for regulating the practice of midwives and contained in the booklet issued by the Board entitled "Rules and Instructions for the Guidance of Midwives."

17. Any midwife who disobeys these Regulations or the rules or instructions specified in the above-mentioned booklet, or who is guilty of misconduct or malpractice, may be suspended from practice for such period as the Board orders, or her name may be removed from the Register by the order of the Board; but before the enforcement of any suspension or removal such midwife shall have the opportunity of giving an explanation either personally or in writing.

Part VI. deals with emergencies. The midwife is required to call in to her assistance a medical practitioner in certain emergencies, when no medical practitioner engaged by the patient is in attendance. The midwife is required to report each case of emergency, in which she has called in a medical practitioner. The emergencies necessitating the assistance of a medical practitioner are as follows:—Threatened or actual abortion or miscarriage; pregnancy in a dwarfed or deformed woman, excessive loss of blood, excessive sickness, swelling of the hands or face, fits or convulsions, dangerous varicose veins, purulent discharge, and sores on the genital organs, all noted during the pregnancy. The second set of emergencies refer to women in labour at or near term. They comprise fits or convulsions, purulent discharge, sores on the genitals, a malpresentation, presentation other than by the head, when no presentation can be made out, excessive bleeding, when the placenta and membranes have not been completely expelled within two hours of the birth of the child, rupture of the perineum or other soft parts, when labour has been prolonged beyond 24 hours, when the general condition of the woman is unsatisfactory. The emergencies during the lying-in period are: fits, abdominal swellings, offensive lochia, rigors with raised temperature, rise of temperature above 38° C. (100.4° F.) or quickening of the pulse-rate above 100 for more than 24 hours, unusual swelling of the breasts with local tenderness or pain, secondary post-partum hæmorrhage and white leg. Further, the midwife is required to call in a medical practitioner in all cases in which a woman during pregnancy, labour or lying-in appears to be dying or dead. The calling in of a medical practitioner is also required for the child, when there is any abnormality or complication, including injuries received during the birth, malformations or deformities in a child that seems likely to live, dangerous feebleness, inflammation of or discharge from the eyes, however slight, serious skin eruptions, inflammation about, or hæmorrhage from, the navel.

In Part VII. the fees are prescribed. The candidate for the midwives' examination is to pay one guinea for the first examination and five shillings for every subsequent examination. The registration fee is five shillings. The fee for the annual renewal of registration is two shillings and sixpence.

The examining body conducting the examination of midwives are to be paid ten shillings for each candidate examined.

The fees payable by the Board to medical practitioners called in by a midwife in an emergency are as follows: For a visit and advice, ten shillings and sixpence; for attendance in a case of abortion, including curettage, three guineas; for delivery, one guinea; for delivery after version or destructive operation, two guineas; for perineal repair, when called in after delivery, one guinea; for complete perineorrhaphy, two guineas; for expression of the placenta or for attendance on account of post-partum hæmorrhage, when no intra-uterine operation is required, ten shillings and sixpence, and when an intra-uterine operation is required, one guinea; for curettage during the lying-in period, two guineas; and for the administration of an anæsthetic, when a special anæsthetist is required, one guinea. An additional ten shillings and sixpence is payable in any of the above instances when the attendance is carried out in response to a call delivered between 8 p.m. and 8 a.m. Mileage is payable at the rate of two shillings and sixpence per mile after

the first mile up to three miles, and five shillings for every mile or portion of a mile after three miles during the daytime. At night-time the mileage is five shillings per mile after the first mile and seven shillings and sixpence per mile after three miles.

In Part VIII. the various forms to be used in connexion with the regulations are prescribed.

FOOD CONTROL IN CANADA.

Although there has been no marked shortage of food in Canada, a Food Controller has been appointed so that, by conserving her food supply and increasing the production of wheat and food animals, the Dominion may be able to export larger quantities of food to Great Britain and her allies. An Order-in-Council was passed by the Canadian Government some months ago to restrict the use of white bread, beef and bacon, and proceedings have been taken against restaurant-keepers who have failed to observe these regulations. Farmers throughout the country are urged to increase the production of food animals, and of hogs in particular, and a campaign with this end in view has been instituted in each province under the direction of the provincial Government. The sugar supply at present is sufficient for immediate needs, and purchasers are requested not to buy more than they require at the time. The present consumption of sugar is about 3.4 kilograms a month for each person, and it is probable that this quantity will be reduced to about 1.4 kilograms in the near future. Action has been taken by the Food Controller to fix the price of milk, and vendors are now not permitted to charge more than the cost of milk to them, plus 4.62 cents a litre in the western provinces and 4.40 cents in other parts of the country. The use of sugar or molasses in the distillation of potable liquors is prohibited, and it is probable that the employment of cane sugar in candy-making will be very much curtailed. It was announced that an Order-in-Council would be passed about the end of January to provide for the use of war bread composed of approximately 70% wheat flour and 30% corn flour or other grain. The loaves will weigh a pound and a half, three pounds and six pounds, and the bakers will probably make delivery three times a week instead of each day. Other food restrictions will also be made in the near future.

Correspondence.

THE DIAGNOSIS OF ABDOMINAL LESIONS.

Sir,—In the *Journal* of the 9th inst. Dr. Stewart McKay writes some interesting notes on "Differential Diagnosis of Abdominal Lesions."

The paper appears to me to be an appeal for the more frequent diagnosis of appendicitis, and treats with disdain the more modern method of diagnosis of gastro-intestinal lesions by means of radiography.

Personally, I have never heard a surgeon admit that he has removed anything but a pathological appendix, and the pathologist will always report "chronic inflammatory changes" in an appendix submitted to him. Such being the case, there is a great chance that an abnormal appendix will be discovered in any abdomen.

The diagnosis of appendicitis is made far too frequently and far too lightly, and nine cases have been seen by me in the last few months, which have had a recurrence of symptoms after a recent appendicectomy.

A list of the lesions subsequently found were as follows:—

1. Advanced pyloric stenosis due to ulcer; operation, recovery.
2. One large renal calculus.
- 3, 4, 5, 6, 7. Ureteral calculi.
8. Visceroperitonitis in a hopeless neurotic, whom the surgeon should shun.
9. Hydronephrosis (proved by pyelography).

It is generally recognized that an expert radiographer can

give a correct opinion as to the organ involved in abdominal lesions in about 95% of cases, and in about 75% to 80% he can correctly diagnose the actual lesion.

Yet we find no mention of radio-diagnosis in this paper as published.

I am afraid that duodenal ulcer is much commoner than Dr. McKay thinks, and my own experience coincides with that of the American surgeons, who place the rate of occurrence at three duodenal ulcers to every one gastric ulcer.

The diagnosis of duodenal ulcer is not only made by the "physician who never sees the abdomen opened," but it is daily being made and confirmed by surgeons at our large hospitals.

Of course a surgeon may, unless careful, easily miss an early ulcer, for, as has been pointed out by the Mayos, often only a faint white scarring marks the position of the ulcer externally, and no thickening of the walls of the duodenum can be detected on palpation.

Carman ("Radio-diagnosis of Gastro-intestinal Lesions") states: "Recent ulcer is small and shallow and no marked evidence appears externally," and he gives many excellent photographs of such ulcers after excision.

Again, a warning against the other diagnosis mentioned, viz., gastro-coloptosia. Dr. McKay advises operation if the greater curvature is 2½ centimetres (1 inch) below the umbilicus.

Ninety-five per cent. of women have their greater curvature 5 to 7½ cm. below the umbilicus as a normal position, and gastro-coloptosia should only be diagnosed when the greater curvature is at, or below, the *symphysis pubis*, and in addition the hepatic and splenic flexures of the colon are below the intercostal line.

Should patients with moderate degrees of gastric ptosis be submitted to gastropexy, a lucrative field will be opened for the surgeon, when the available appendix supply is exhausted.

Yours, etc.,

MORE MODERN DIAGNOSIS.

March 12, 1918.

TO FURTHER RECRUITING.

Sir,—It is indeed refreshing to read the letter of Dr. Dyring in your last issue. Would that the correspondence columns contained oftener such calm and reasoned utterances. But what will be the fate of Dr. Dyring's letter? Judging from the reception accorded to nearly all letters touching the material interests of the profession it is safe to say it will be passed by unheeded, or else draw forth acrimonious personal comments from "the other side." A sad thing about the *Journal* is that, while the correspondence columns should be the parliament of the rank and file of the profession, they are scarcely used. Such a subject as "Barcoo Rot" will lead to the shedding of much good ink, yet the present crisis in club affairs in Victoria has hardly elicited a groan or a gloat. Of one thing Dr. Dyring can be sure, which is that the shoals of men who have shirked their duty, will lie *perdus*. "Theirs not to do or die." No, but to reap the golden harvest while they may. To themselves they say: "We cannot afford to leave our valuable practices." What about the inferior class who left all to go in the combatant ranks and also in the A.A.M.C.? Certainly from the horrible examples of men's practices, ruined and jumped in their absence, they have something to fear who only regard the pecuniary aspect of the thing. But many of these men even now would never starve if they gave up practice for ever. Men who have not recognized their duty before this fourth year of war are beyond the reach of persuasion or ridicule.

Yours, etc.,

OBSERVER.

Sir,—There is an old saying that "it is dark reading in other people's books," and I do not consider that it becomes Dr. Dyring or any other man to judge home service medical men in this war. Inability to go on active service is not only brought about by physical disabilities.

Dr. Dyring must remember that it is easy enough for a man who contemplates selling his practice and going to

England in any case, enlisting instead and being sent.

The only men who are in a position to speak are those who left their practices at the outbreak of war and are still out there, and likely to remain there.

Yours, etc.,

ONLOOKER.

March 12, 1918.

Sir,—The correspondence concerning recruiting is, or should be, of intense interest to many of us. But is it not rather reminiscent of a stanza in the Rubaiyat which ends—

about it and about; but ever more

Came out by the same door where in I went.

Many months ago a large majority of medical men signified their desire for conscription of the profession. Can this desire not be utilized by, say, obtaining the names of all men willing to serve their country to its best advantage, appointing local councils to decide whether such men will be better employed in the Army or in their own districts, and finally to select them in rotation by lot, or fitness, or otherwise, to fill vacancies at home or abroad. Let us not descend to the time-worn referendum methods of arguing, but do something.

Yours, etc.,

R. EDGE CUMBE SHORT.

Lilydale, Victoria,

March 12, 1918.

Sir,—On the above subject may I be allowed to make the suggestion that the military authorities be requested to reconsider their decision not to enlist medical men for service abroad for a less period than "the duration of the war." In the early days of the war medical men were invited to enlist for six or twelve months. Now nothing less than "the duration" is considered. There are, I am sure, many senior men only too anxious to assist the Empire, but owing to business and domestic ties they are utterly unable to leave their practices for an indefinite time. Allow senior men to volunteer for whatever time they feel they can allow themselves, and I am sure the results will justify the concession. The argument that medical men are not entitled to different conditions to other members of the community, loses its force if we consider that the majority of those availing themselves of these conditions, would be of an age to render them of little, or no value in the combative ranks, and of use to their country only because of their special skill and training.

Yours, etc.,

HARRY H. LEE.

Wollongong, N.S.W.

Replies to Correspondents.

Dr. J. S. Proctor enquires for advice as to the best work on operative surgery suitable to a general practitioner who has to do his own operative surgery without assistance. We would recommend J. F. Binnie's "Manual of Operative Surgery," Sixth Edition, 1913, published by P. Blakiston's Son & Co., Philadelphia, price 35s., as a suitable book. "A Manual of Surgical Treatment," by Sir W. Watson Cheyne, Bart., and F. F. Burghard, 1913, published by Longmans, Green & Co., in five volumes at £1 1s. per volume, and Binnie's "Regional Surgery" in three volumes, published by P. Blakiston's Son & Co., 1917, at £4 10s., are also extremely fine works. These books may be obtained at Messrs. Angus and Robertson, Limited, Sydney.

Proceedings of the Australian Medical Boards.

VICTORIA.

The undermentioned has been registered, under the provisions of Part I. of the *Medical Act, 1915*, as a duly qualified medical practitioner:—

Harold Gengoult Smith, 71 Collins Street, Melbourne, L.R.C.P., et. S. Edin., L.R.F.P.S., Glas., 1917.

The following names of deceased practitioners have been removed from the Register:—

Francis Joseph Keyes.
Allan Godwin Jackson.
James Buick.

NEW SOUTH WALES.

The following have been registered, under the provisions of *The Medical Practitioners Act, 1912-1915*, as duly qualified medical practitioners:—

Mackay, Stewart, M.B., Bac. Surg., 1914, Univ. Melbourne.
Talbot, John Richard, Lic., Lic., Mid., 1908, R. Coll. Phys., Irel.; Lic., Lic., Mid., 1908, R. Coll. Surg., Irel.

Additional Registration.

Holloway, Edward Spencer, Mast. Surg., 1918, Univ. Sydney.

Books Received.

SERVICE PUBLICATION No. 14: STORAGE AND DISTRIBUTION OF WATER ON SHIPS, by A. E. Wadsworth, M.R.S.L., A.M.I.S.E., Quarantine Sanitary Inspector; 1917. Royal Svo., pp. 80, with 52 figures. Albert J. Mullett, Government Printer, Melbourne.

Medical Appointments.

It is announced in the *Victoria Gazette* of February 27, 1918, that Dr. S. G. Skewes (B.M.A.) has been appointed Public Vaccinator for the North-Eastern District. Dr. Arthur McArthur Lamphier (B.M.A.) for the North-Western District and Dr. Horace Pern (B.M.A.) for the South-Eastern District, Victoria.

The appointment of Dr. H. T. Hamilton (B.M.A.) and Dr. R. S. Whitford (B.M.A.) as Public Vaccinators for the Metropolitan District, of Dr. G. E. T. Haydon and Dr. G. A. Eadie (B.M.A.), for the South-Western District, Victoria, is announced in the *Victoria Gazette* of March 13, 1918.

Dr. David Skinner (B.M.A.) has been appointed Acting Public Vaccinator for the North-Eastern District, Victoria.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute. Cloncurry Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA. (Hon. Sec., 8 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide. Contract Practice, Appointments at Renmark.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
TASMANIA. (Hon. Sec., Belgrave, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

- Mar. 26.—N.S.W. Branch, B.M.A., Council.
- Mar. 27.—Vic. Branch, B.M.A., Council.
- Apr. 2.—N.S.W. Branch, B.M.A., Council (Quarterly).
- Apr. 5.—Q. Branch, B.M.A.
- Apr. 9.—N.S.W. Branch, B.M.A., Ethics Committee.
- Apr. 9.—Tas. Branch, B.M.A., Council and Branch.
- Apr. 10.—Vic. Branch, B.M.A.
- Apr. 11.—Vic. Branch, B.M.A., Council.
- Apr. 16.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- Apr. 17.—North-Eastern Med. Assoc. (N.S.W.).
- Apr. 17.—W. Aus. Branch, B.M.A.
- Apr. 18.—City Med. Assoc. (N.S.W.).
- Apr. 19.—Eastern Suburbs Med. Assoc. (N.S.W.).
- Apr. 19.—Q. Branch, B.M.A., Council.
- Apr. 20.—Northern Suburbs Med. Assoc. (N.S.W.).
- Apr. 23.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.